Service Manual

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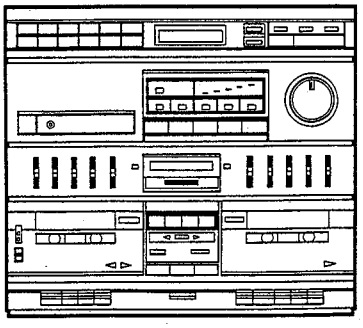

ORDER NO.
ARP1491

STEREO CASSETTE TAPE DECK RECEIVER

RX-Z71L

MODELS RX – Z71L, RX – Z71 AND RX – Z71S HAVE FIVE VERSIONS :

Type	Applicable model			Power requirement	Export destination
	RX – Z71L	RX – Z71	RX – Z71S		
HEI	O	–	–	AC220V,240V (switchable)	European continent
HB	O	–	–	AC220V,240V (switchable)	United Kingdom
HEZ	–	O	–	AC220V,240V (switchable)	West Germany
YP	–	O	–	AC240V only	Australia
SD	–	O	O	AC110V,120V – 127V,220V,240V (switchable)	Kingdom of SaudiArabia and general market
HEIXSG	O	–	–	AC220V,240V (switchable)	European continent

- **This manual is applicable to the RX – Z71L/HEI and HB types.**
- **For the other types, refer to additional service manuals.**
- **Ce manuel pour le service comprend les explications en français de réglage.**
- **Este manual de servicio trata del método ajuste escrito en español.**

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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

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1. SAFETY INFORMATION

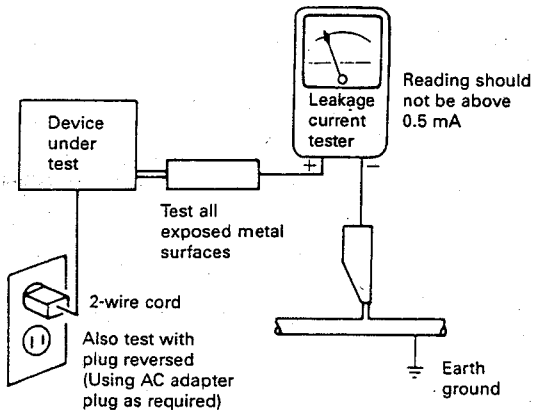
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120 V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Device under test
Leakage current tester
Reading should not be above 0.5 mA
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefor, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

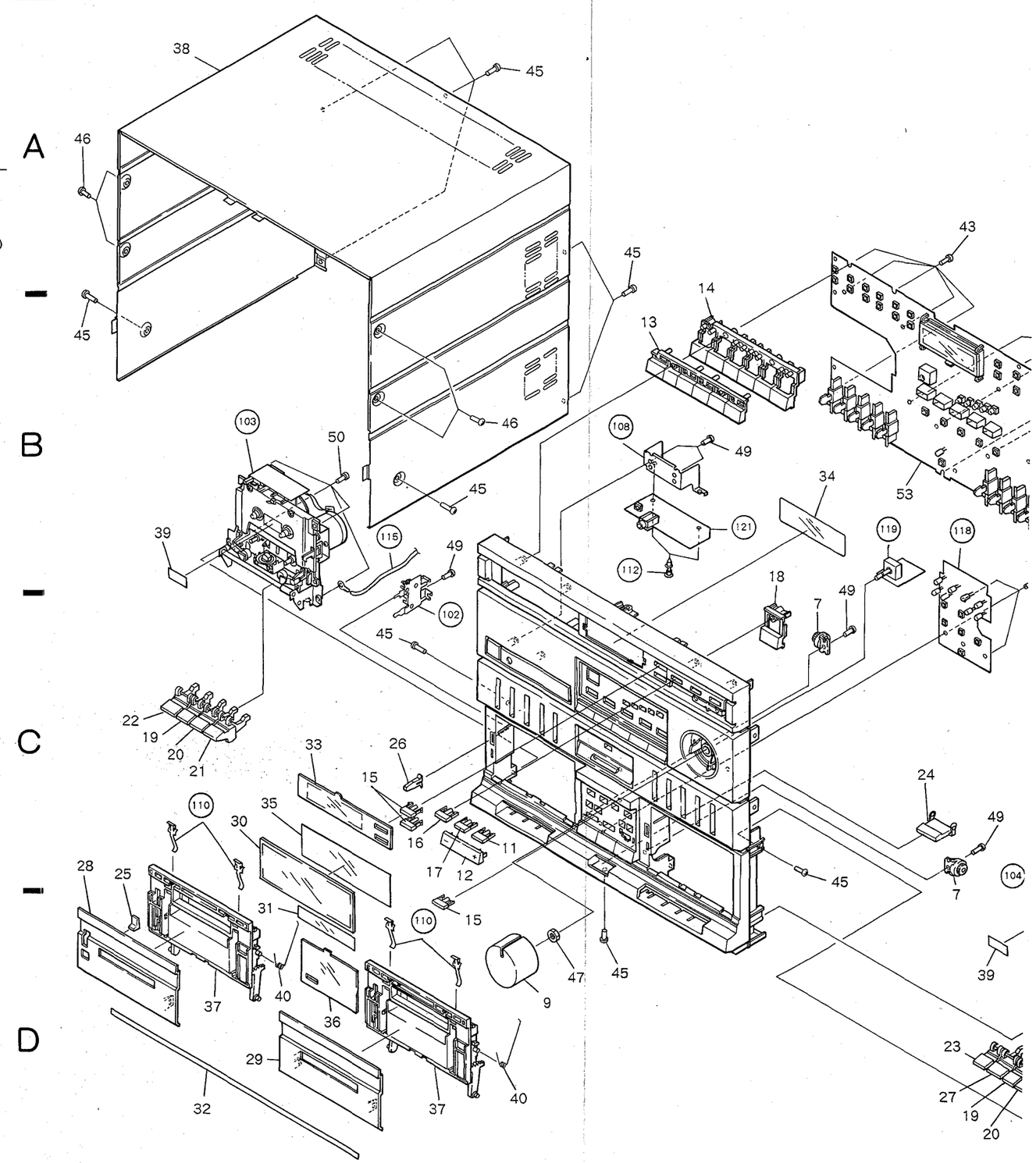
2.1 Exterior

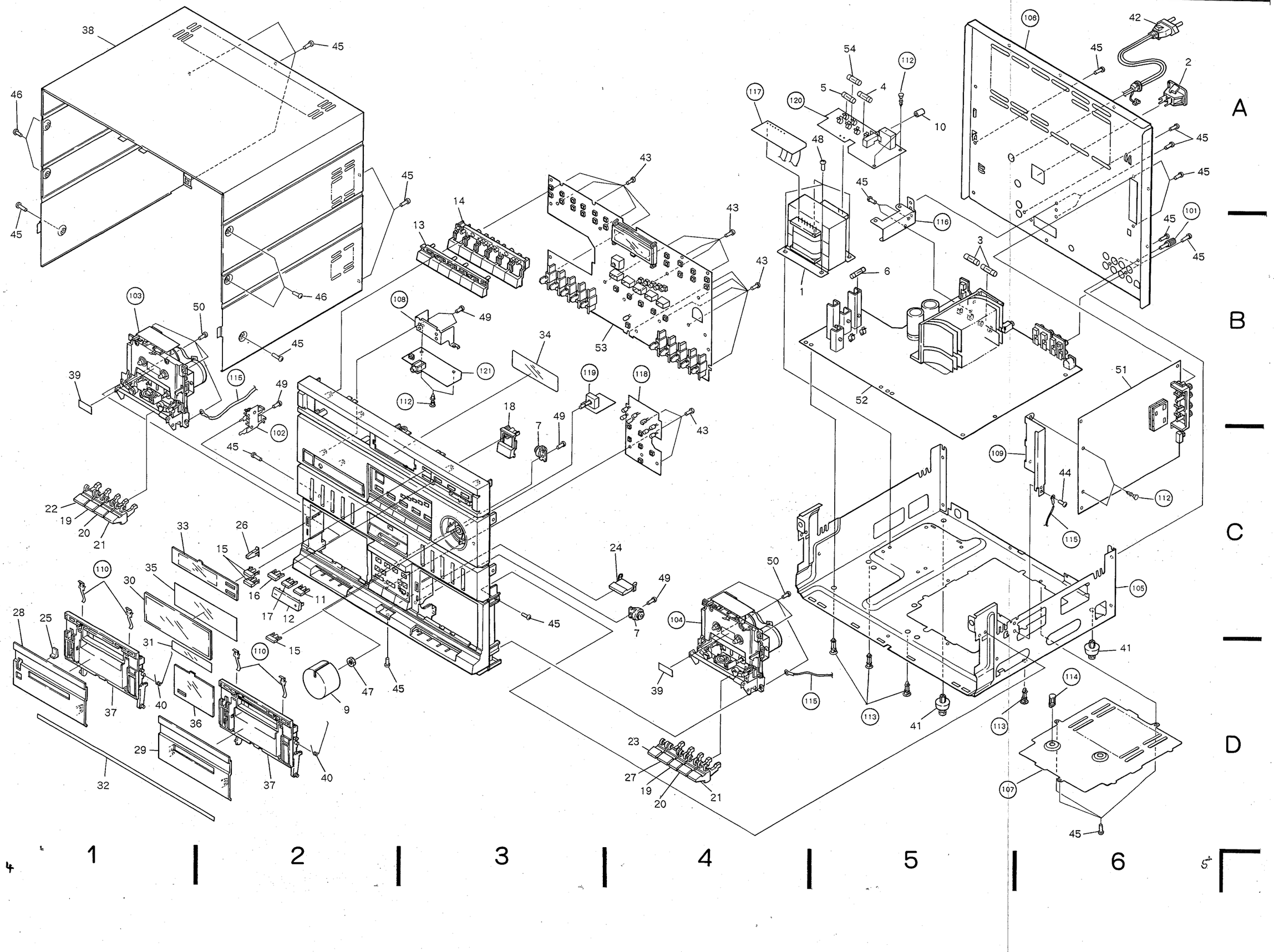
Parts List

Mark	No.	Part No.	Description
⚠ ★	1	ATS1125	Power transformer (T1)
⚠	2	AKP1024	1P AC socket (HEI type)
⚠		AKP1023	1P AC socket (HB type)
⚠★★	3	AEK-017	Fuse (T2A/250V,FU5,FU6) (HEI type)
⚠★★		AEK-511	Fuse (T2A/250V,FU5,FU6) (HB type)
⚠★★	4	AEK-018	Fuse (T1.25A/250V,FU1) (HEI type)
⚠★★		AEK-509	Fuse (T1.25A/250V,FU1) (HB type)
⚠★★	5	AEK-402	Fuse (T1A/250V,FU2) (HEI type only)

Mark	No.	Part No.	Description
⚠★★	6	AEK-405	Fuse (T1.6A/250V,FU4) (HEI type)
⚠★★		AEK-510	Fuse (T1.6A/250V,FU4) (HB type)
	7	AXA1005	Damper assembly
	8	AMB1305	Front panel assembly
	9	AAB1054	Knob (VOLUME)
	10	AAD-015	Push knob (MAIN POWER)
	11	AAD1314	Memory button (CLOCK/FREQ)
	12	AAD1315	Tuning button (TUNING +,−)
	13	AAD1316	Station button A (1/13 − 6/18)
	14	AAD1317	Station button B (7/19 − 12/24)
	15	AAD1318	Button (TIMER,DOLBY NR)
	16	AAD1324	Memory button (MEMORY)
	17	AAD1325	Memory bytton (MODE)
	18	AAD1326	Band button (BAND)
	19	AAE1081	Cassette button A (REW)
	20	AAE1082	Cassette button A (FF)
	21	AAE0183	Cassette button A (STOP/EJECT)
	22	AAE1084	Cassette button A (PLAY)
	23	AAE1085	Cassette button C (REC)
	24	AAE1086	PAUSE button
	25	AAE1087	REVERSE MODE knob
	26	AAE1088	DIRECTION knob
	27	AAE1089	Cassette button B (PLAY)
	28	AAK1420	Door cover
	29	AAK1422	Door cover
	30	AAK1424	Amplifier plate B
	31	AAK1425	Graphic Equalizer plate
	32	AAK1427	Deck plate B
	33	AAK1429	Tuner plate
	34	AAK1430	FL filter
	35	AAK1431	Amplifier plate A
	36	AAK1432	Deck plate A
	37	AAN1065	Cassette door
	38	AZN1453	Bonnet case

Mark	No.	Part No.	Description
	39	AAX1054	Fluorescent sheet
	40	ABH1043	Door spring
	41	AEC-847	Leg assembly
⚠	42	ADG1021	AC power cord (HEI type)
⚠		ADG-063	AC power cord (HB type)
	43	BBZ26P080FMC	Screw
	44	BBZ30P080FMC	Screw
	45	BBZ30P080FZK	Screw
	46	BPZ30P100FZK	Screw
	47	NK70FUC	Nut
	48	VBZ30P060FMC	Screw
	49	VPZ30P080FMC	Screw
	50	VPZ30P100FMC	Screw
	51	AWE1059	TUNER assembly
	52	AWZ1754	MAIN assembly
	53	AWZ1757	μ − CON assembly
⚠★★	54	AEK-508	Fuse (T1A/250V,FU3) (HB type only)
	101		Terminal (GND)
	102		Lever assembly
	103		Tape transport unit (DECK I)
	104		Tape transport unit (DECK II)
	105		Chassis
	106		Rear panel
	107		Bottom plate
	108		PCB support A
	109		PCB support B
	110		Keep plate
	111		• • • • •
	112		Pin-grommet
	113		PCB holder
	114		PCB support
	115		Earth lead
	116		Heat sink support
	117		CONNECT assembly
	118		SWITCH assembly
	119		VR SW assembly
	120		POWER SUPPLY assembly
	121		HEADPHONE assembly

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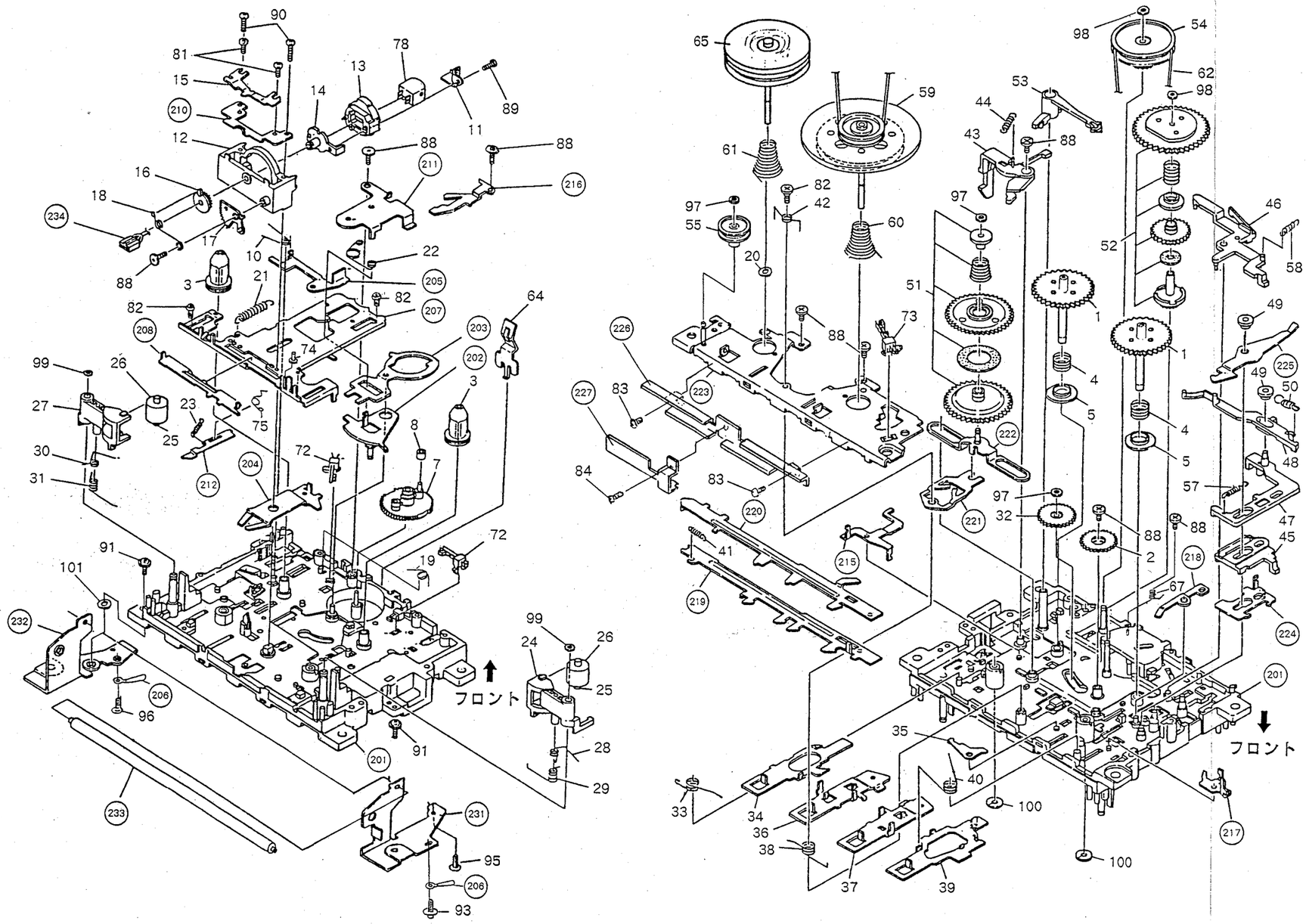
2.2 Tape Transport Unit (DECK 1)



Parts List

Mark	No.	Pa
	1	A:
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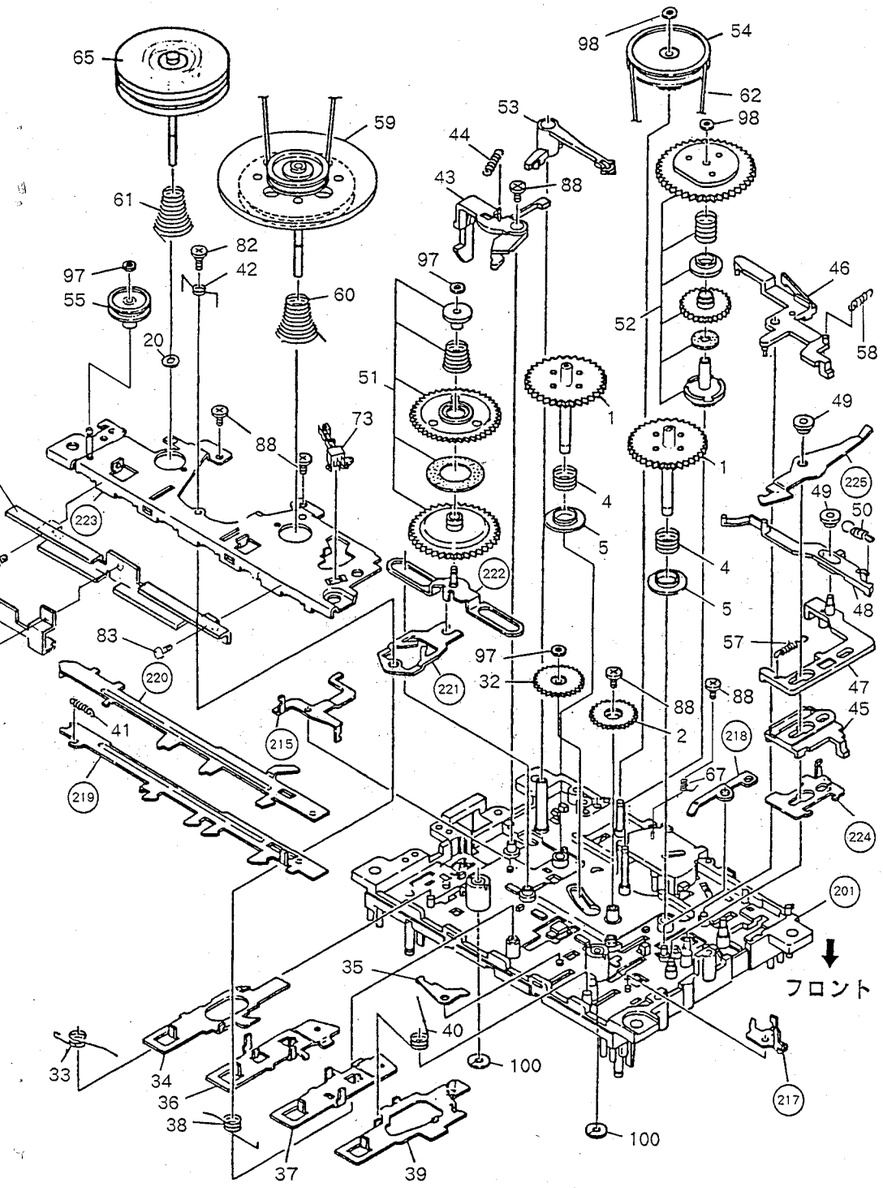
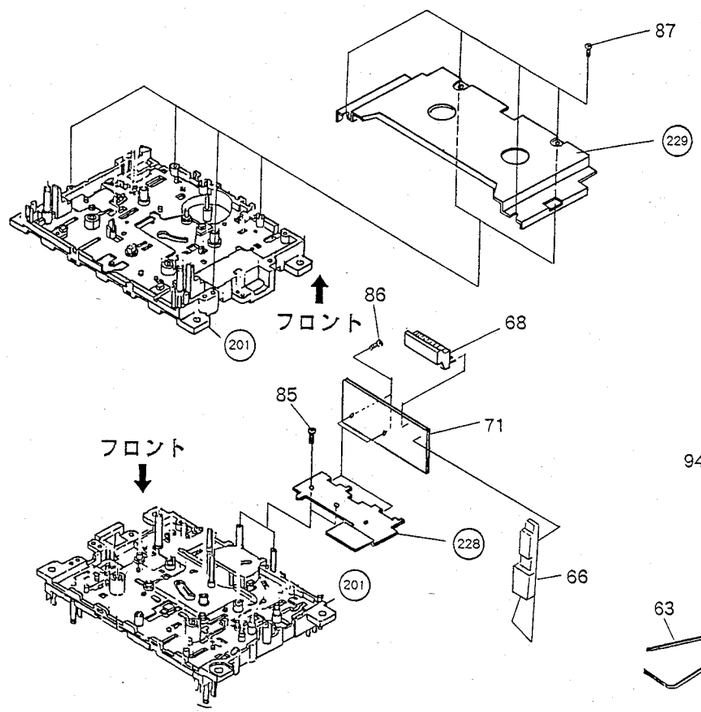
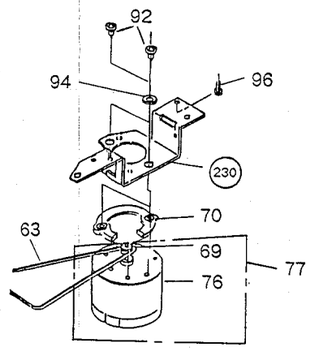
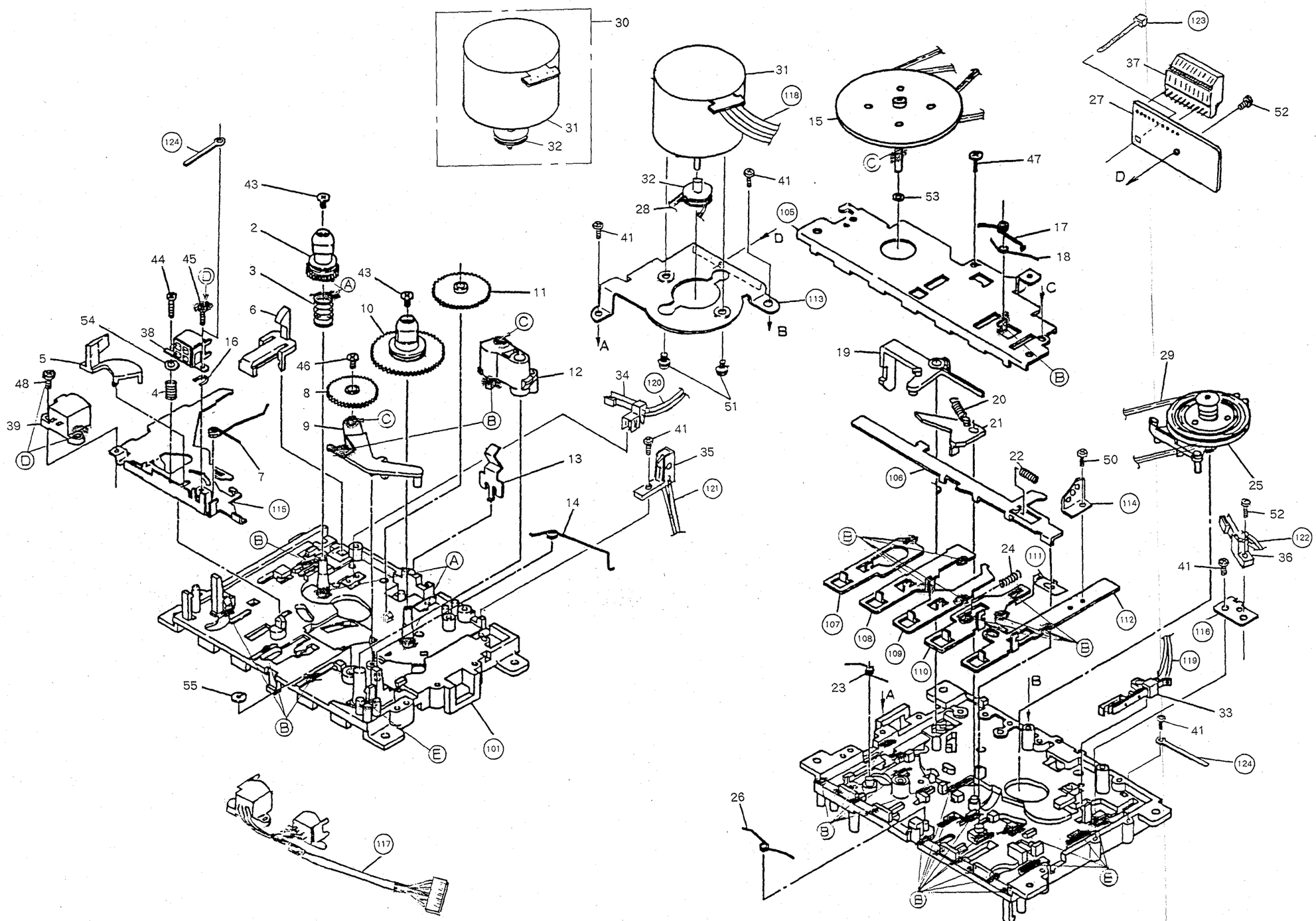






Parts List

Mark	No.	Part No.	Description
	1	AZN1510	Reel gear
	2	AZN1511	FWD gear
	3	AZN1512	Reel cap
	4	AZN1513	Spring
	5	AZN1514	Reel D bush
	6		• • • • •
	7	AZN1515	Reverse gear assembly
	8	AZN1516	Coller B
	9		• • • • •
	10	AZN1518	Spring
	11	AZN1522	SP head plate
	12	AZN1519	Head holder
	13	AZN1520	Head holder B
	14	AZN1521	Head holder A assembly
	15	AZN1523	Azimuth spring plate
	16	AZN1524	Head gear A
	17	AZN1525	Head gear B
	18	AZN1526	Spring
	19	AZN1574	Spring
	20	AZB1241	Washer
	21	AZN1527	Spring
	22	AZN1528	Spring
	23	AZN1529	Spring
	24	AZN1530	Pinch arm R
	25	AZN1531	Shaft
	26	AZN1532	Pinch roller
	27	AZN1533	Pinch arm L
	28	AZN1534	Spring
	29	AZN1535	Spring
	30	AZN1536	Spring
	31	AZN1537	Spring
★★	32	AZN1538	Idler gear
	33	AZN1539	Spring
	34	AZN1540	STOP lever
	35	AZN1541	CUE arm
	36	AZN1542	FF lever
	37	AZN1543	REW lever
	38	AZN1544	Spring
	39	AZN1545	PLAY lever B
	40	AZN1546	Spring
	41	AZN1547	Spring
	42	AZN1548	Spring
	43	AZN1549	EJECT lever
	44	AZN1550	Spring
	45	AZN1551	MO lever
	46	AZN1552	DR lever
	47	AZN1553	Senser lever
	48	AZN1554	Senser lever B
	49	AZN1555	Bush
	50	AZN1556	Spring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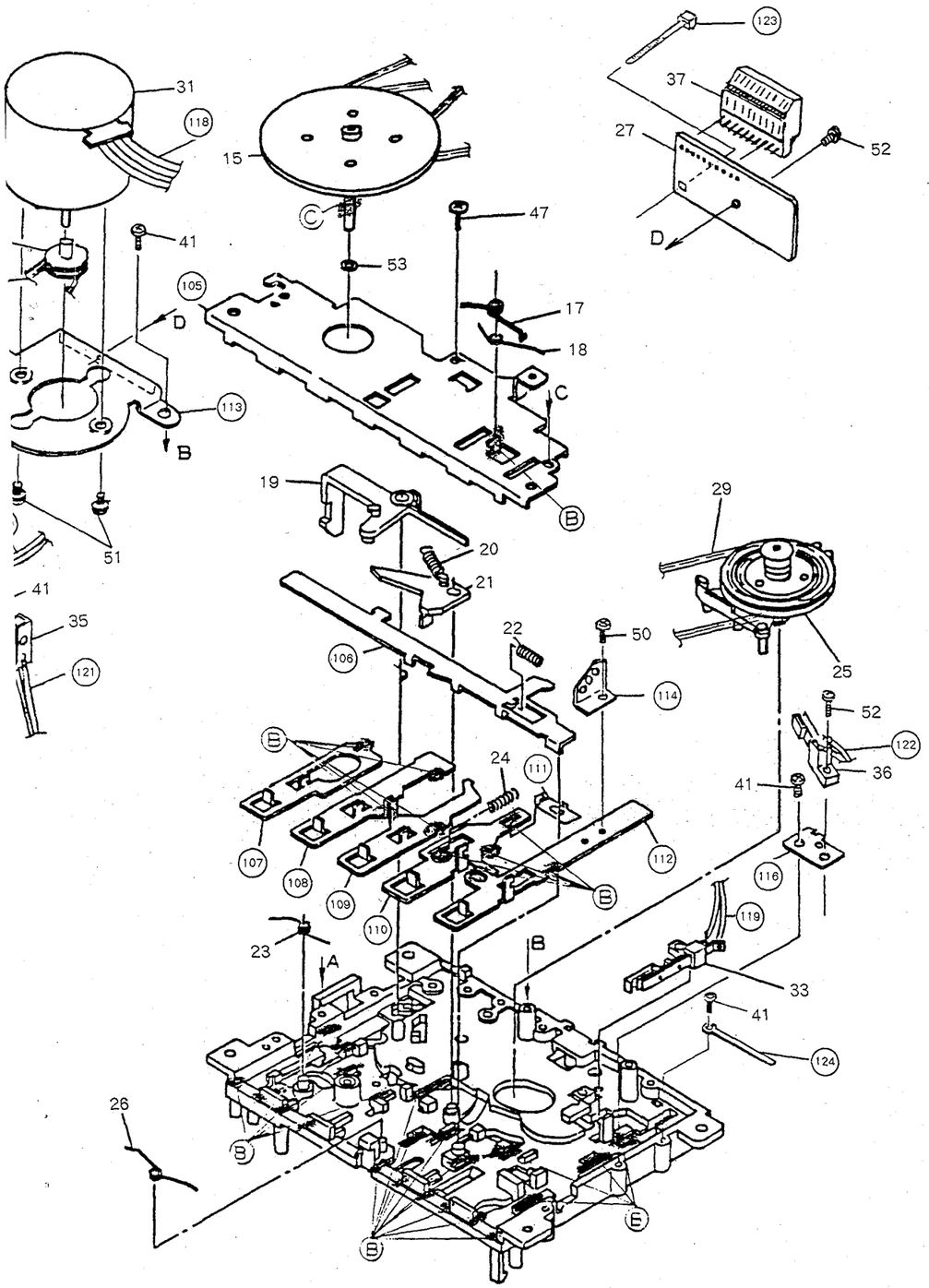
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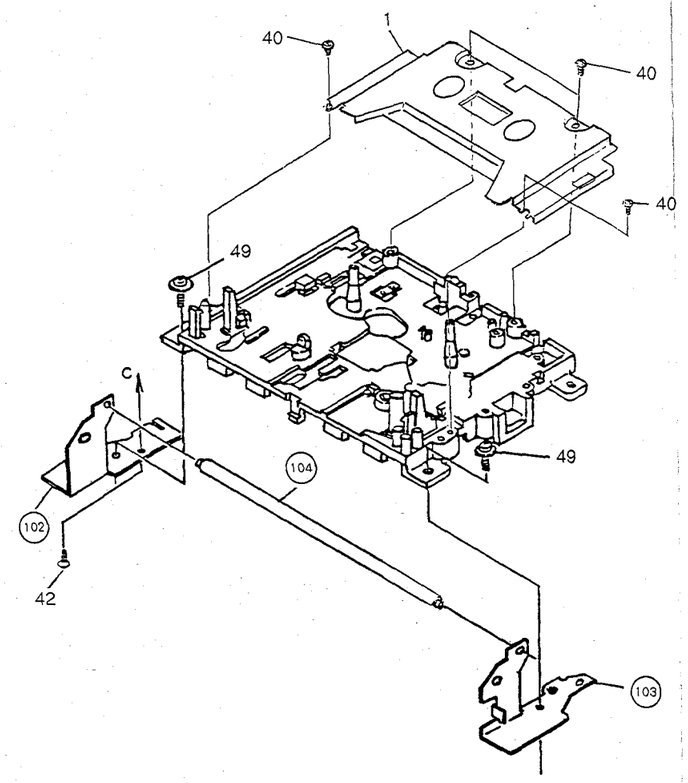
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Mark	No.	Part No.	Description
	51	AZN1557	FF tension assembly
	52	AZN1558	Tension assembly
	53	AZN1559	STOP senser arm
	54	AZN1560	Drive pulley
	55	AZN1561	Pulley
	56		• • • • • •
	57	AZN1578	Spring
	58	AZN1562	Spring
	59	AZN1563	Flywheel assembly
	60	AZN1565	Spring
	61	AZN1564	Spring
★★	62	AZN1566	Belt
★★	63	AZN1567	Belt
	64	AZN1580	Cassette SP plate
	65	AZN1569	Flywheel assembly
★★	66	AZS1065	Leaf switch
	67	AZB1244	Spring
	68	AZN1573	Connector
	69	AZN1509	Motor pulley
	70	AZN1304	Spacer
	71	AZN1571	Main P.C.B
★★	72	AZS1063	Leaf switch
★★	73	AZS1064	Leaf switch
	74	AZB1243	Eyelet
	75	AZB1242	Spring
★★	76	AZX1022	Motor
★★	77	AZX1023	Motor assembly
★★	78	AZP1026	Playback head
	79		• • • • •
	80		• • • • •
	81	AZB1177	Azimuth screw
	82	AZB1178	Screw
	83	AZB1179	Screw
	84	AZB1180	Screw
	85	AZB1181	Screw
	86	AZB1182	Screw
	87	AZB1183	Screw
	88	AZB1184	Bush screw
	89	AZB1185	Screw
	90	AZB1186	Screw
	91	AZB1187	Screw
	92	AZB1188	Screw
	93	AZB1248	Screw
	94	AZB1189	Washer
	95	AZB1190	Screw
	96	AZB1191	Screw
	97	AZB1192	Washer
	98	AZB1193	Washer
	99	AZB1097	Washer
	100	AZB1194	Washer
	101	AZB1195	Washer

Mark	No.	Part No.	Description
	201		Mechanism chassis assembly
	202		Idler plate assembly
	203		Reverse arm A
	204		Reverse plate B
	205		MO connect arm
	206		• • • • •
	207		Head chassis
	208		Slide plate
	209		• • • • •
	210		Azimuth plate
	211		Gear holder
	212		Stop gear lever
	213		• • • • •
	214		• • • • •
	215		STOP senser plate
	216		Stopper
	217		Switch plate A
	218		Switch plate B
	219		Function plate A
	220		Function plate B
	221		FF idler lever
	222		FF idler plate assembly
	223		Lever holder assembly
	224		MC plate
	225		Cancel lever
	226		PCB holder
	227		Cover wire
	228		Plate holder
	229		Mechanism cover plate
	230		Motor holder
	231		PR button holder
	232		PL button holder
	233		Shaft
	234		Head wire

2.3 Tape Transport Unit (DECK II)

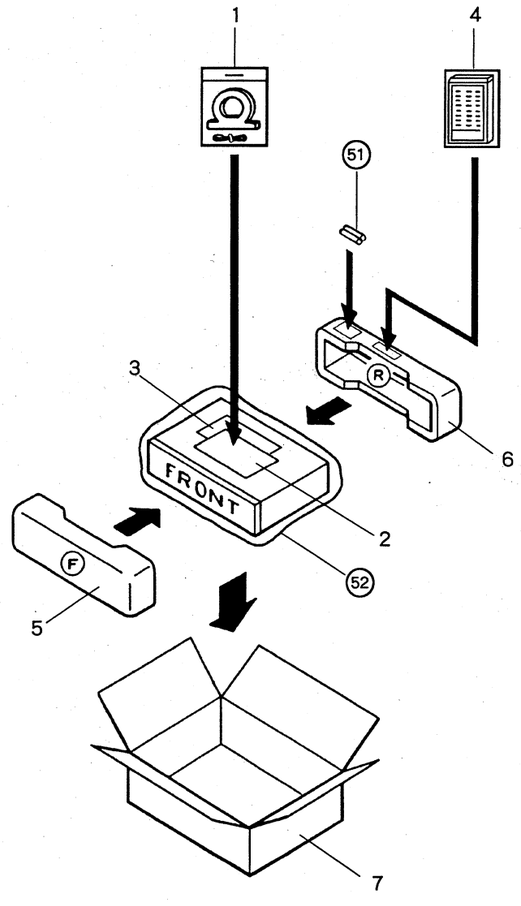
Parts List

Mark	No.	Part No.	Description
	1	AZN1479	Mechanism cover plate
	2	AZN1480	S.reel
	3	AZN1481	C.spring
	4	AZN1482	Azimuth C spring
	5	AZN1508	Tape sensor
	6	AZN1572	Interlock plate
	7	AZN1483	Pinch arm spring
	8	AZN1484	Idler gear
	9	AZN1485	Idler arm
	10	AZN1486	T.reel assembly
	11	AZN1487	FWD gear
	12	AZN1488	Pinch arm assembly
	13	AZN1489	Cassette SP plate
	14	AZN1490	Spring
	15	AZN1491	Flywheel assembly
	16	AZN1494	Spacer C
	17	AZN1495	Spring
	18	AZN1496	Spring
	19	AZN1497	EJECT arm
	20	AZN1498	T.spring
	21	AZN1499	STOP sensor arm
	22	AZN1500	C.spring
	23	AZN1501	Spring
	24	AZN1502	C.spring
	25	AZN1503	Power arm assembly
	26	AZN1504	Spring
	27	AZN1571	Main P.C.B
★★	28	AZN1506	Belt
★★	29	AZN1507	Belt
★★	30	AZX1021	Motor assembly
★★	31	AZX1019	Motor
	32	AZN1509	Motor pulley
★★	33	AZS1059	Leaf switch (MOTOR)
★★	34	AZS1060	Leaf switch (PLAY)
★★	35	AZS1061	Leaf switch (CrO_2)
★★	36	AZS1062	Leaf switch (REC)
	37	AZN1505	Connector
★★	38	AZP1024	REC/playback head
★★	39	AZP1025	Erase head
	40	AZB1183	L.screw
	41	AZB1191	L.screw
	42	AZB1190	L.screw
	43	AZB1165	Bush D
	44	AZB1166	N.screw
	45	AZB1167	P.screw
	46	AZB1184	Bush
	47	AZB1170	Bush C
	48	AZB1175	D.bind screw
	49	AZB1171	D.screw
	50	AZB1172	D.screw
	51	AZB1173	P.screw
	52	AZB1176	D.screw
	53	AZB1168	P.washer
	54	AZB1169	F.washer
	55	AZB1194	N.washer
	101		Mechanism chassis assembly
	102		PL button holder
	103		PR button holder
	104		Shaft
	105		Back plate
	106		Function lever
	107		STOP lever
	108		FF lever
	109		REW lever
	110		PLAY lever
	111		REC stop lever
	112		REC lever
	113		Motor bracket
	114		RSW lever
	115		Head base B
	116		SW plate
	117		Connector assembly
	118		Jumper wire
	119		Lead wire
	120		Lead wire
	121		Lead wire
	122		Lead wire
	123		Nylon band
	124		Lug plate

3. PACKING

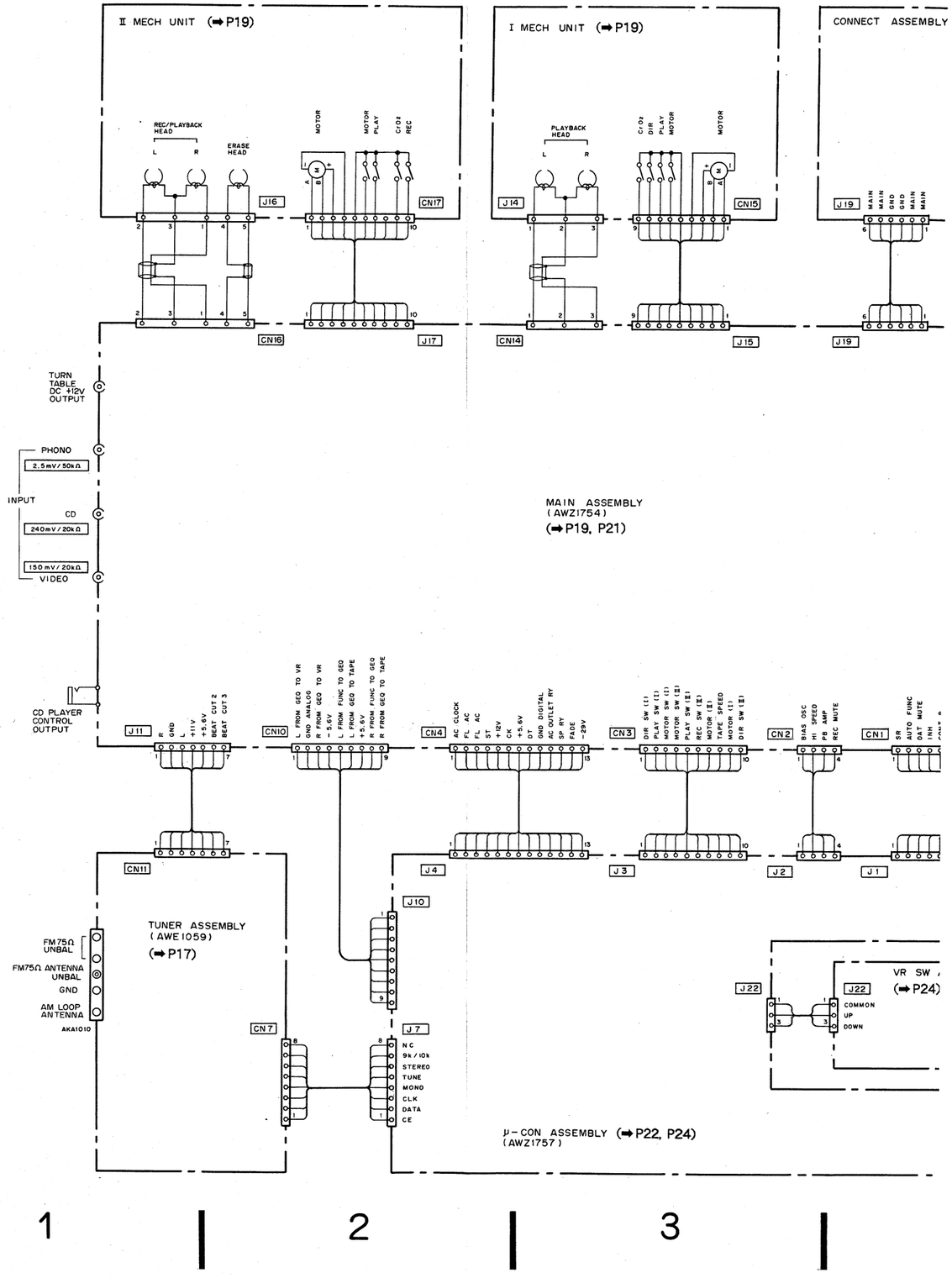
Parts List

Mark	No.	Part No.	Description
	1	AEA1002	Antenna set
	2	ARC1072	Operating instructions (Dutch/Swedish/Spanish/Portuguese) (HEI type)
		ARB1104	Operating instructions (English) (HB type)
	3	ARE1070	Operating instructions (English/German/French/Italian) (HEI type)
	4	AXD1045	Remote control unit
	5	AHA1146	Front pad
	6	AHA1147	Rear pad
	7	AHD1347	Packing case
	51		Battery
	52		Vinyl sheet



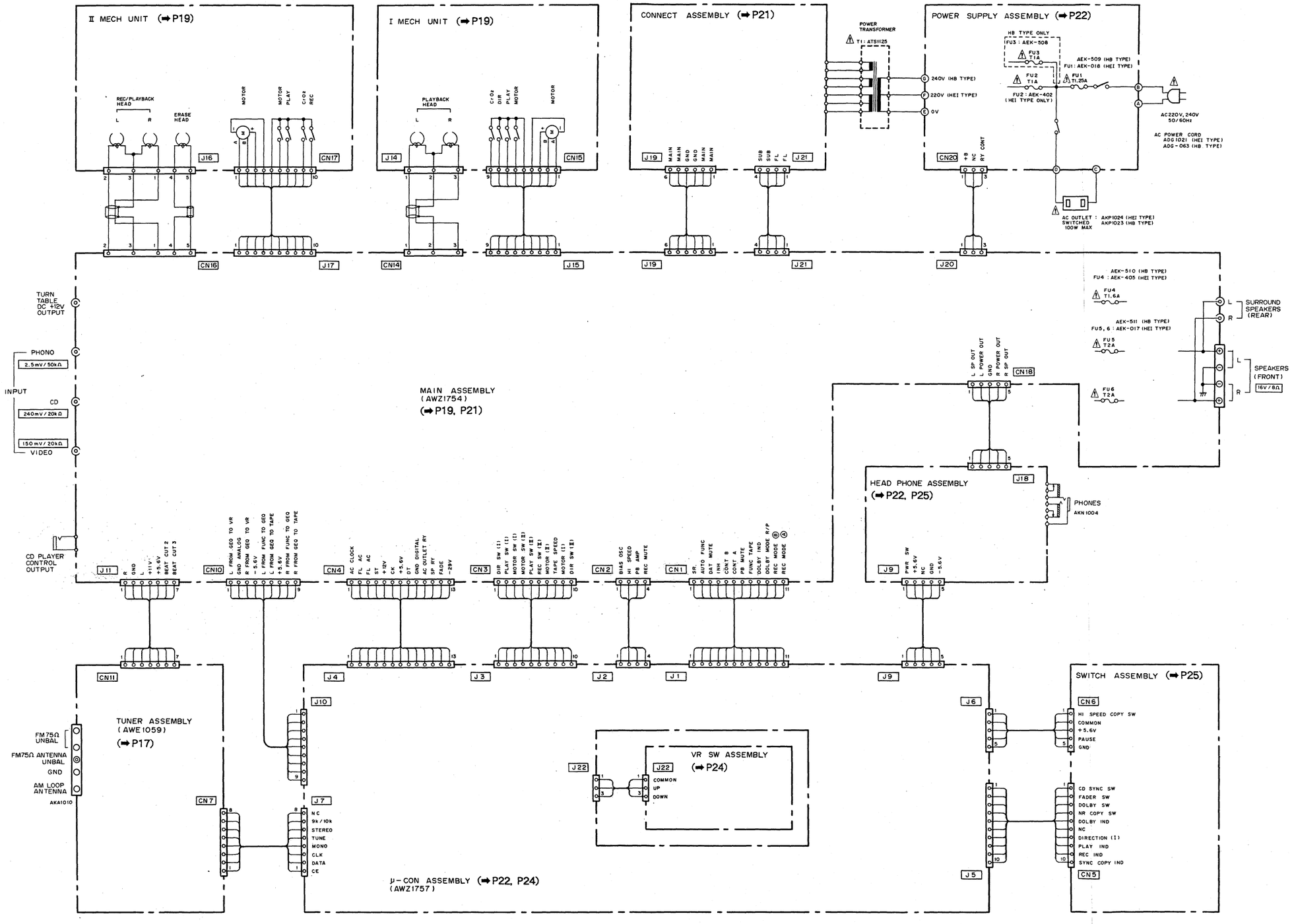
4. SCHEMATIC AND P.C.BOARDS DIAGRAM

4.1 OVERALL WIRING DIAGRAM

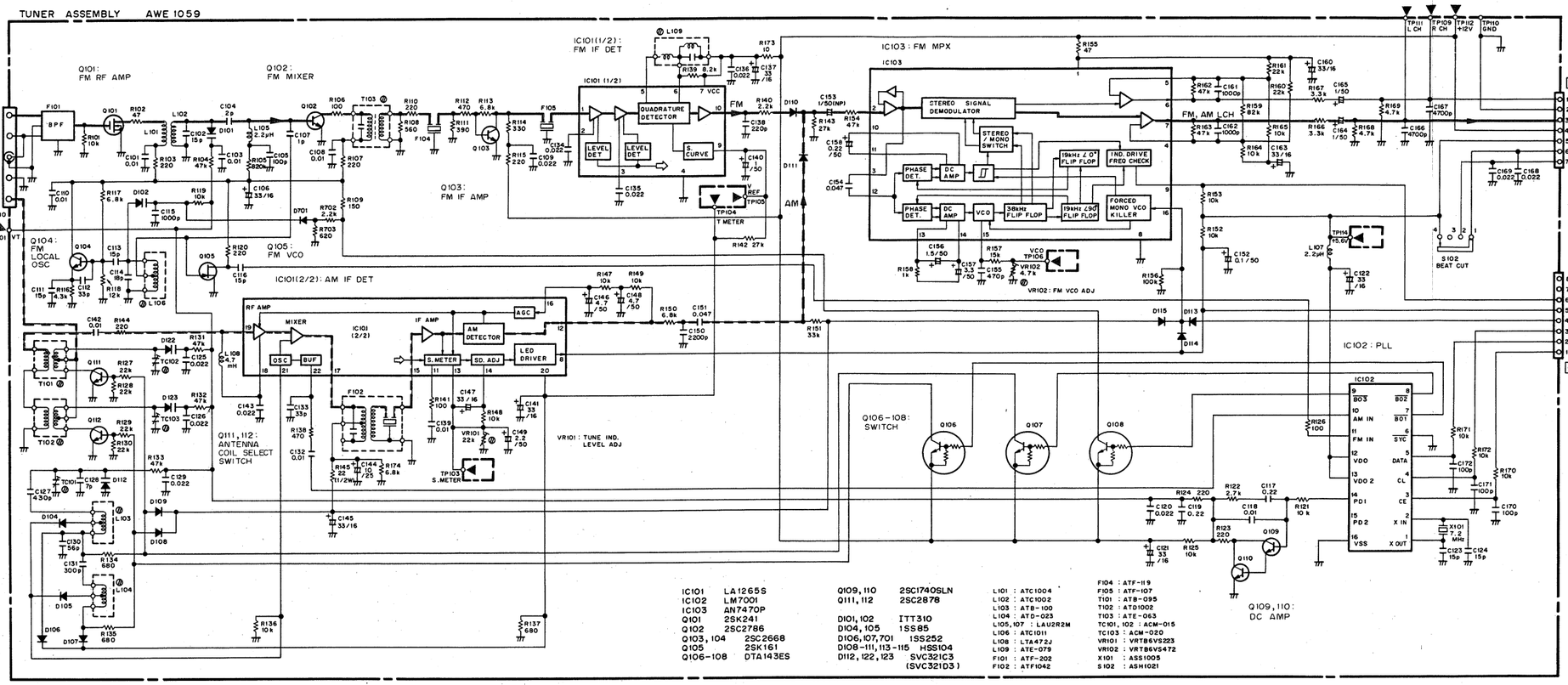


4. SCHEMATIC AND P.C.BOARDS DIAGRAM

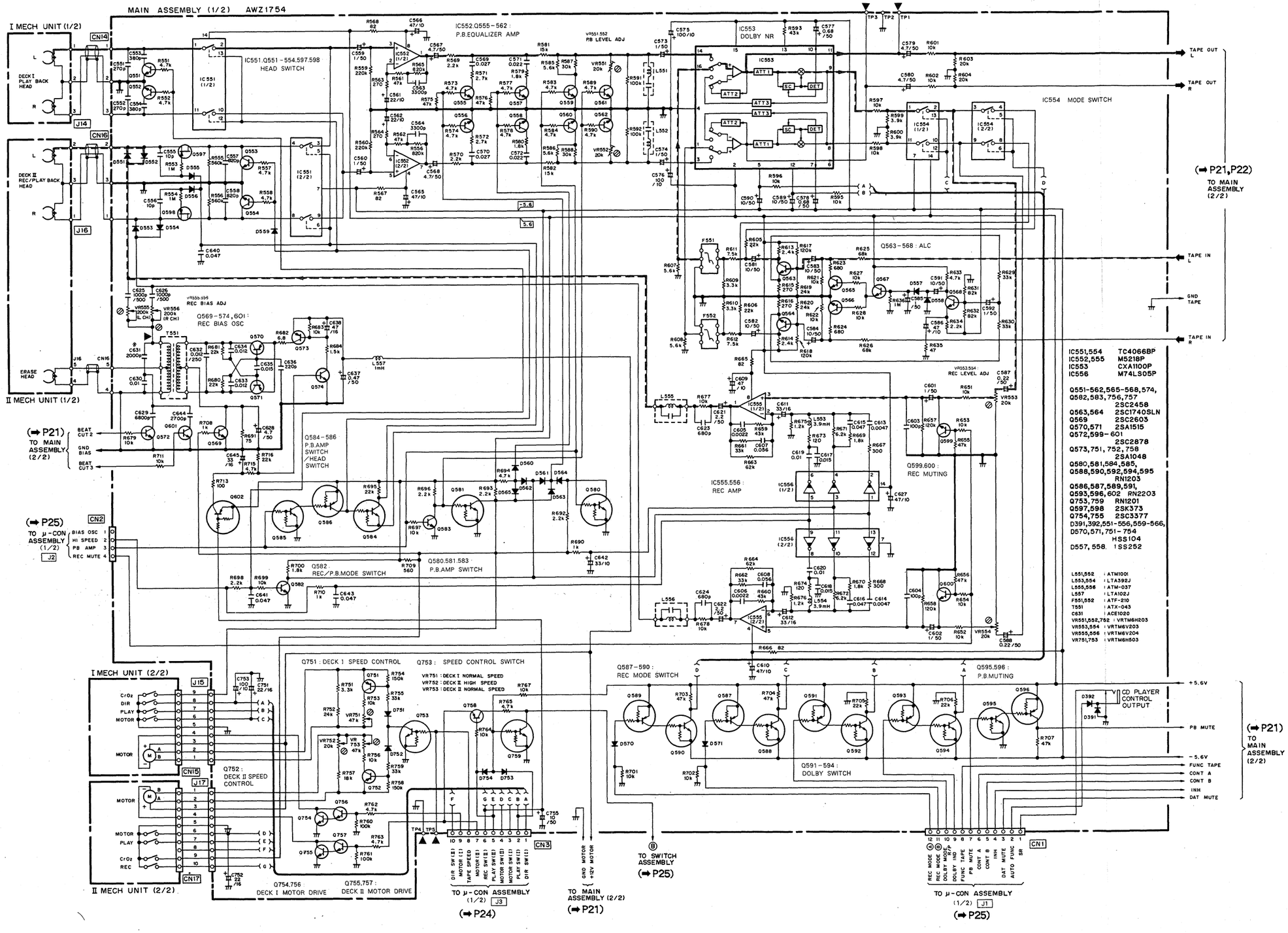
4.1 OVERALL WIRING DIAGRAM



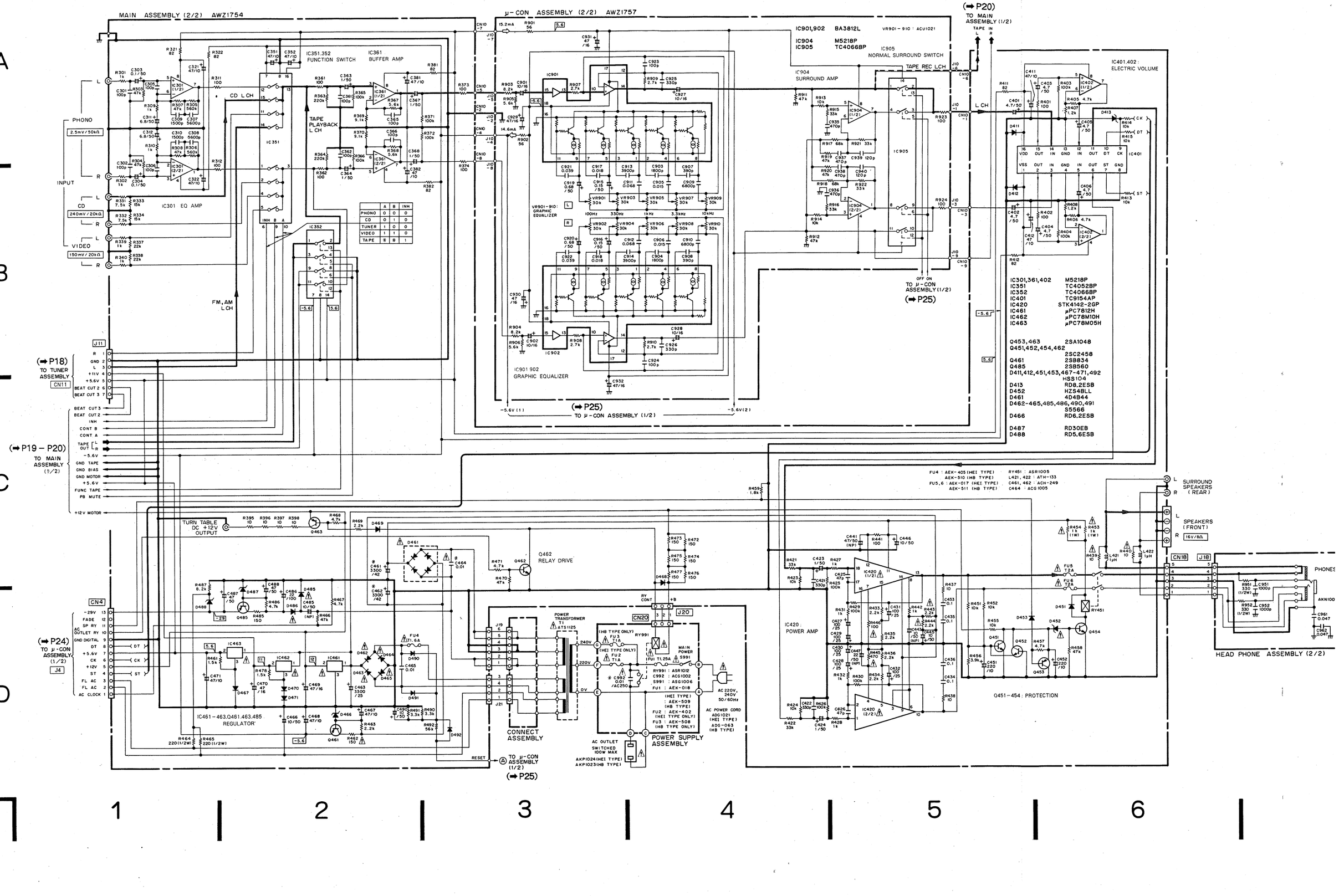
4.2 TUNER SECTION

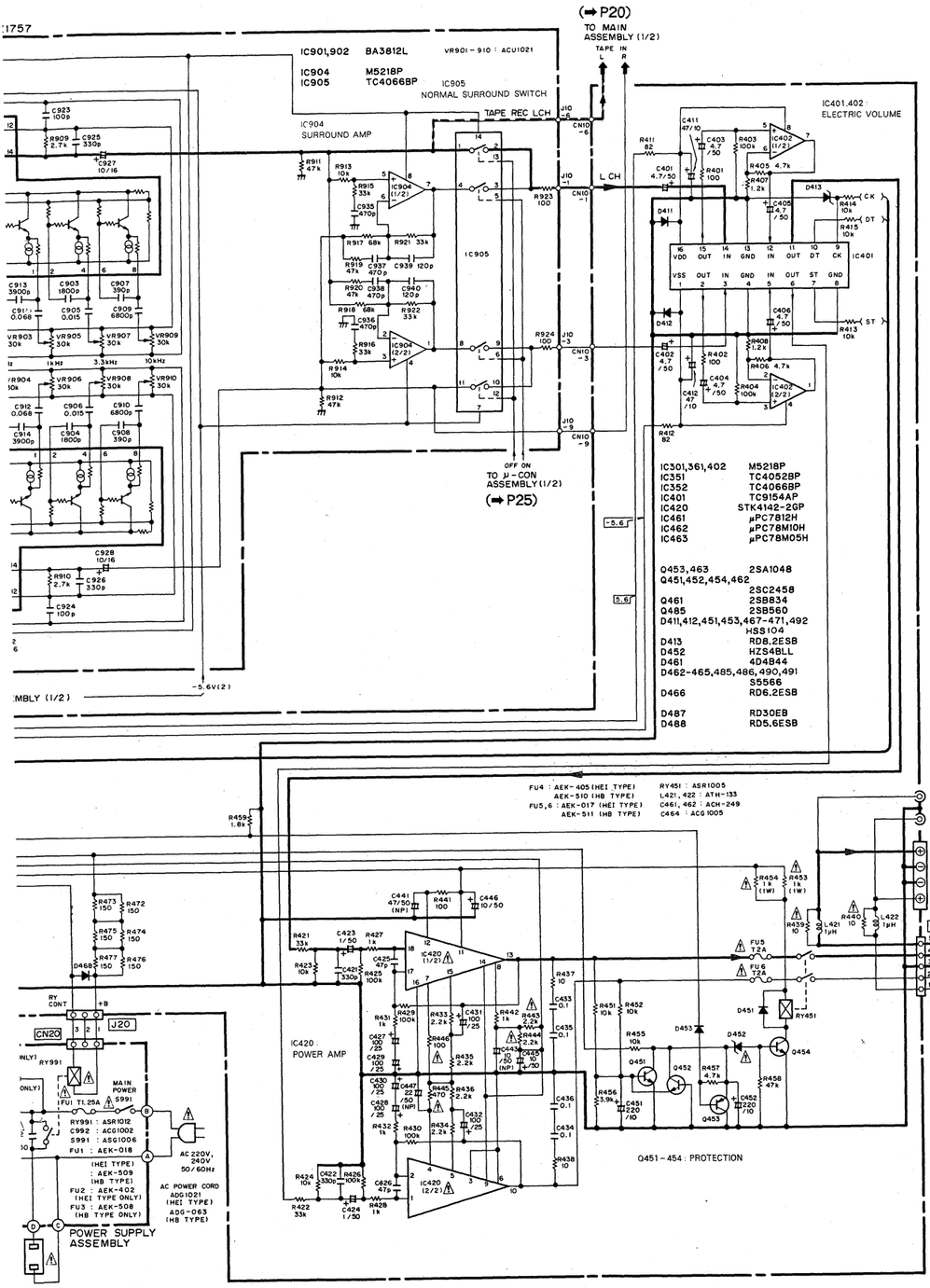


4.3 TAPE DECK SECTION



4.4 AMPLIFIER AND POWER SUPPLY SECTION





1. RESISTORS :
Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

2. CAPACITORS :
Indicated in capacity (μF) / voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT :
V ; Signal voltage at 32W + 32W, 8Ω output (1kHz).
; DC voltage (V) at no input signal.
Value in ( ) is DC voltage at rated power.
⇦mA ; DC current at no input signal.
mV ; Signal voltage at FM 400Hz ± 75Hz DEV.

4. OTHERS :
➡ ; Signal route.
⊘ ; Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
※ marked capacitors and resistors have parts numbers.

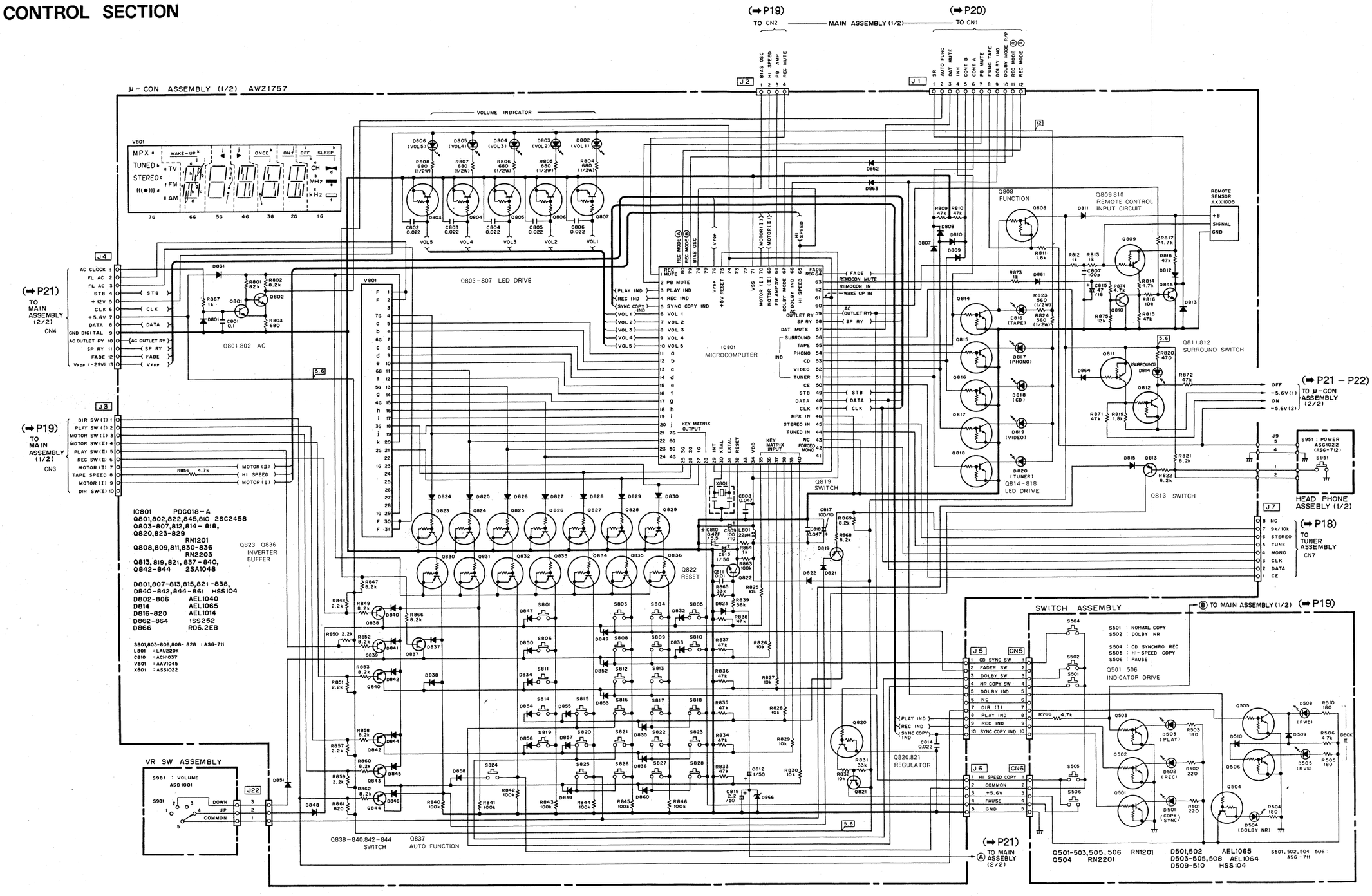
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)

MIC AMP ASSEMBLY
S951 : POWER (STANDBY/ON)
VR SW ASSEMBLY
S981 : VOLUME UP — DOWN
TUNER ASSEMBLY
S101 : BEAT CUT 1 — 2 — 3
SWITCH ASSEMBLY
S501 : NORMAL COPY
S502 : DOLBY NR
S504 : CD SYNCHRO REC
S505 : HIGH SPEED COPY
S506 : PAUSE
POWER SUPPLY ASSEMBLY
S991 : MAIN POWER

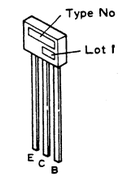
μ — CON ASSEMBLY
S801 : VIDEO
S803 : 4/16
S804 : 10/22
S805 : TUNING —
S806 : CD
S808 : 5/17
S809 : 11/23
S810 : TUNING +
S811 : PHONO
S812 : 6/18
S813 : 12/24
S814 : TAPE
S815 : 1/13
S816 : 7/19
S817 : FM MONO (CLOCK)
S818 : BAND (SLEEP)
S819 : TUNER
S820 : 2/14
S821 : 8/20
S822 : CLOCK/FREQ
S823 : MEMORY (SET)
S824 : SURROUND & STEREO WIDE
S825 : 3/15
S826 : 9/21
S827 : WAKE — UP] TIMER
S828 : ONCE

4.5 CONTROL SECTION

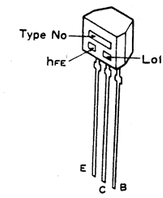


External App

RN1201
RN1203
RN2201
RN2203



2SA1048
2SC2458



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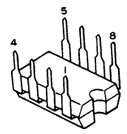

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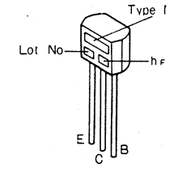
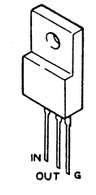
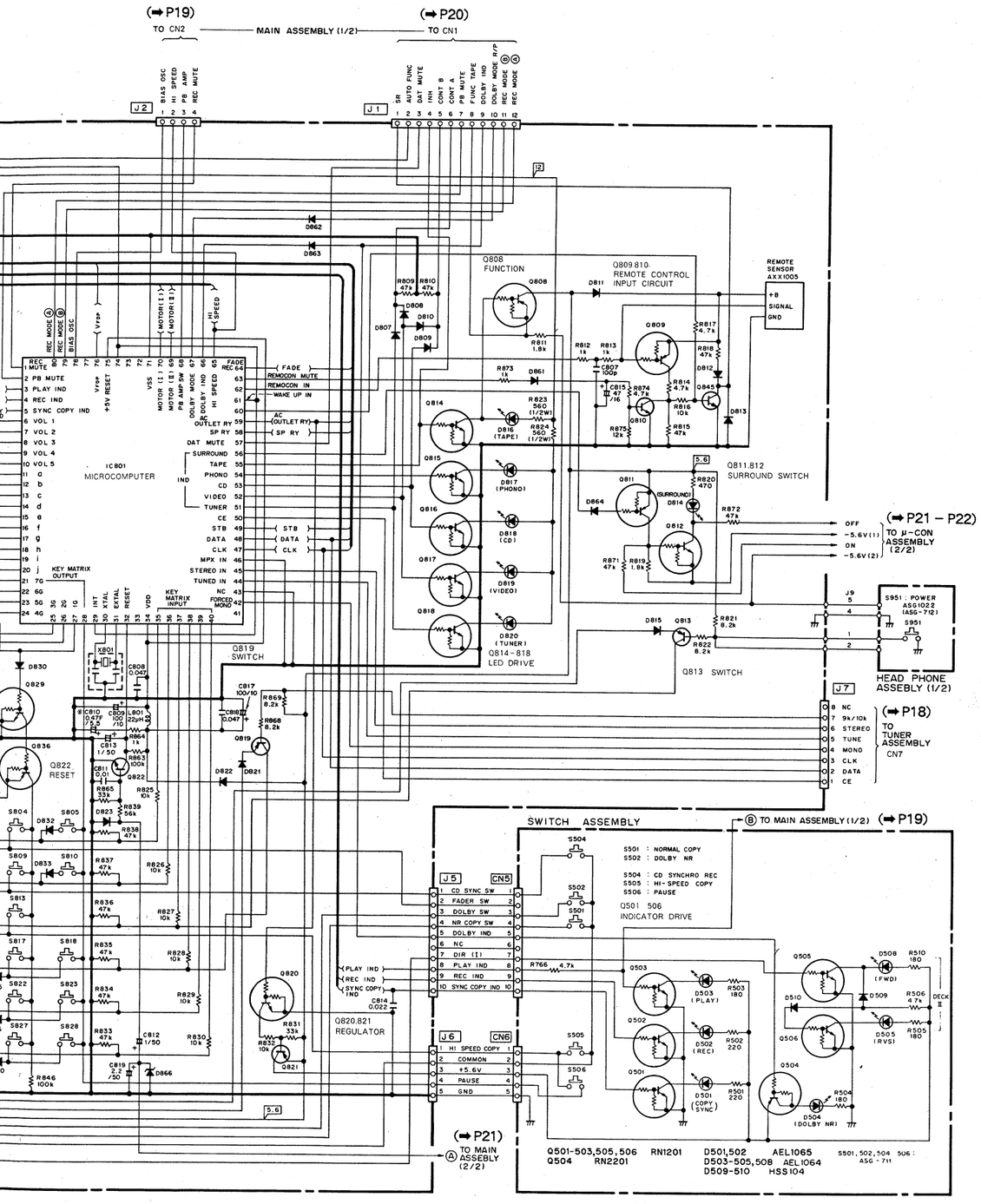


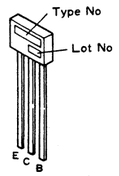
μ PC78M1



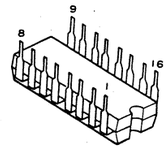


External Appearance of Transistors and Ics

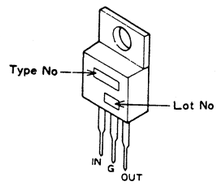
RN1201
RN1203
RN2201
RN2203



AN7470P
LM7001
CXA1100P
M74LS05P
TC9154AP
TC4052BP



μ PC78M05H
μ PC7812H



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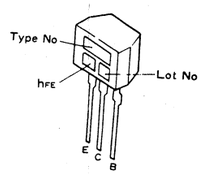

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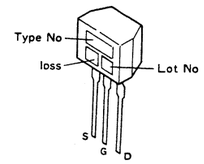
2SK241



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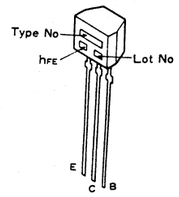

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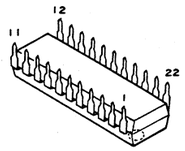
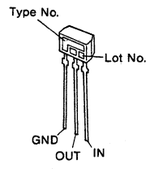


DTA143ES



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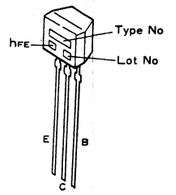

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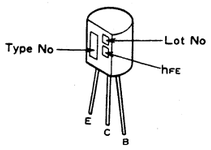

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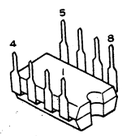

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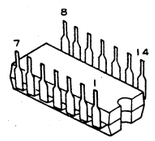

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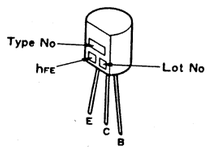

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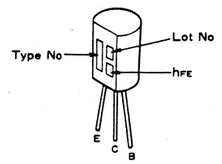

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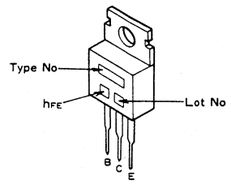

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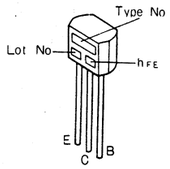

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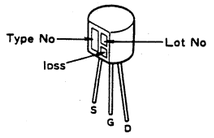
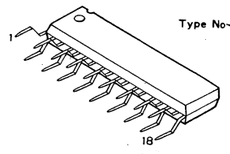


BA3812L



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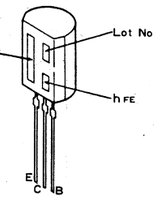
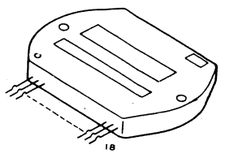
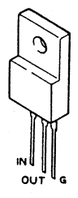


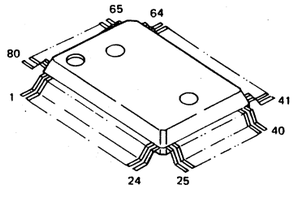
STK4142 – 2GP



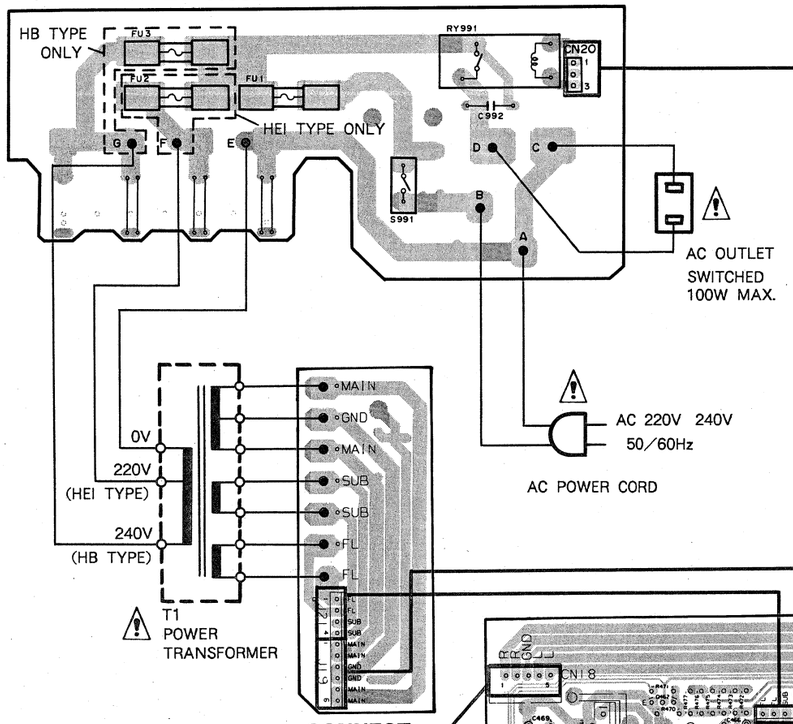
μ PC78M10H



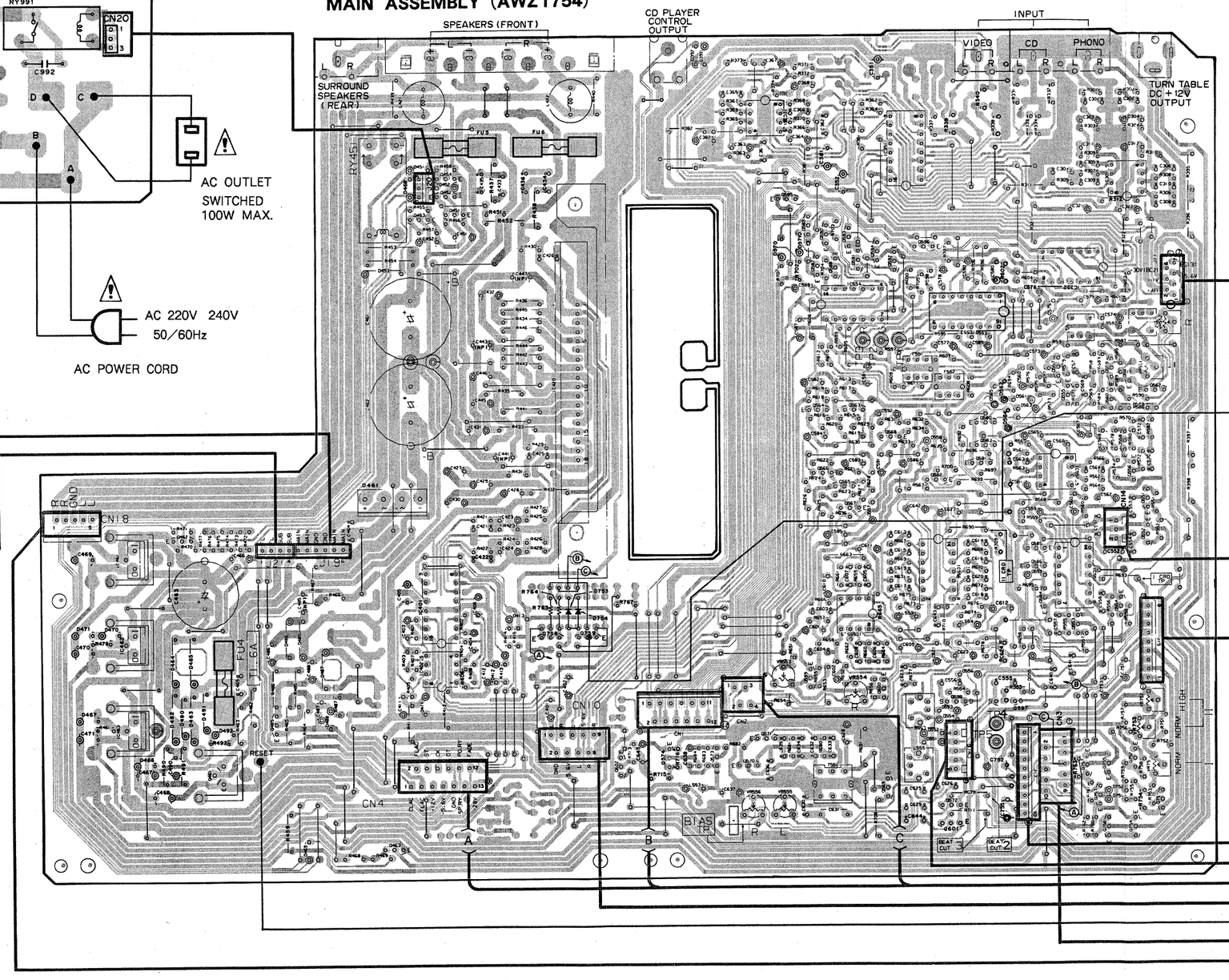
PDG018 – A



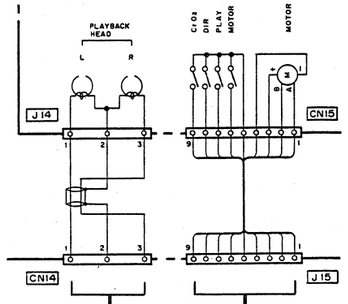
POWER SUPPLY ASSEMBLY



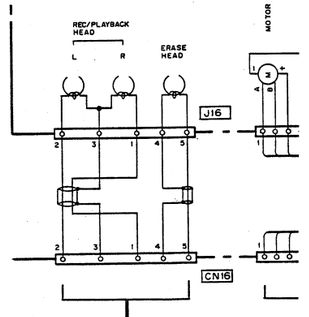
MAIN ASSEMBLY (AWZ1754)



Tape Transport Unit (DECK I)



Tape Transport Unit (DI

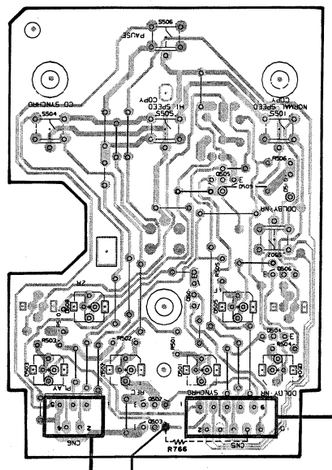


7 8 9 10 11 12

A B C D

SWITCH ASSEMBLY

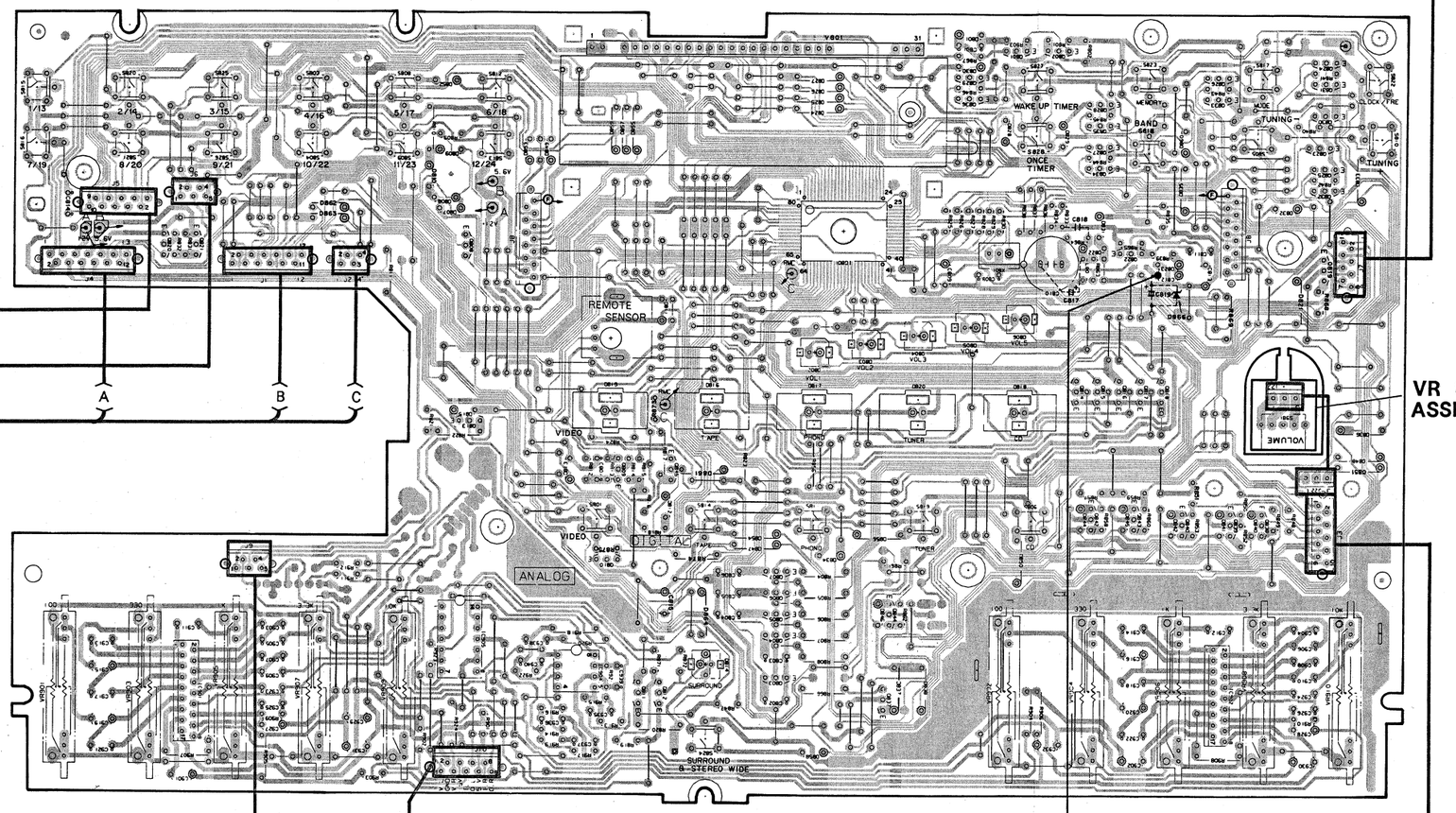
Q502 Q505 Q506
Q503 Q501 Q504



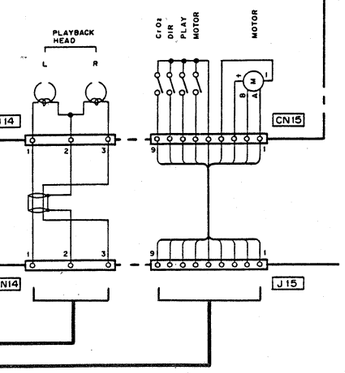
μ – CON ASSEMBLY (AWZ1757)

Q820 Q821 IC901 Q808 Q813 IC905 Q809 Q810—Q812 IC904 Q845 IC801 Q844 Q837 Q829 Q836 Q801 Q802 Q835 Q827 Q828 Q834 Q822 Q814—Q818 Q842 Q843 Q840 Q826 Q833 Q839 IC902 Q838 Q819 Q830—Q832 Q823—Q825

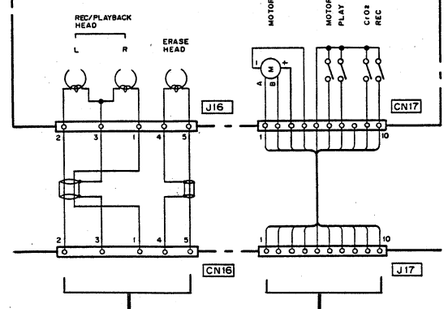
VR901 VR903 VR905 VR907 VR909 VR911 VR902 VR904 VR906 VR908 VR910



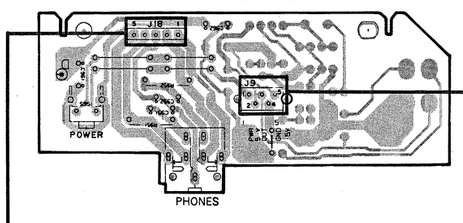
Tape Transport Unit (DECK I)



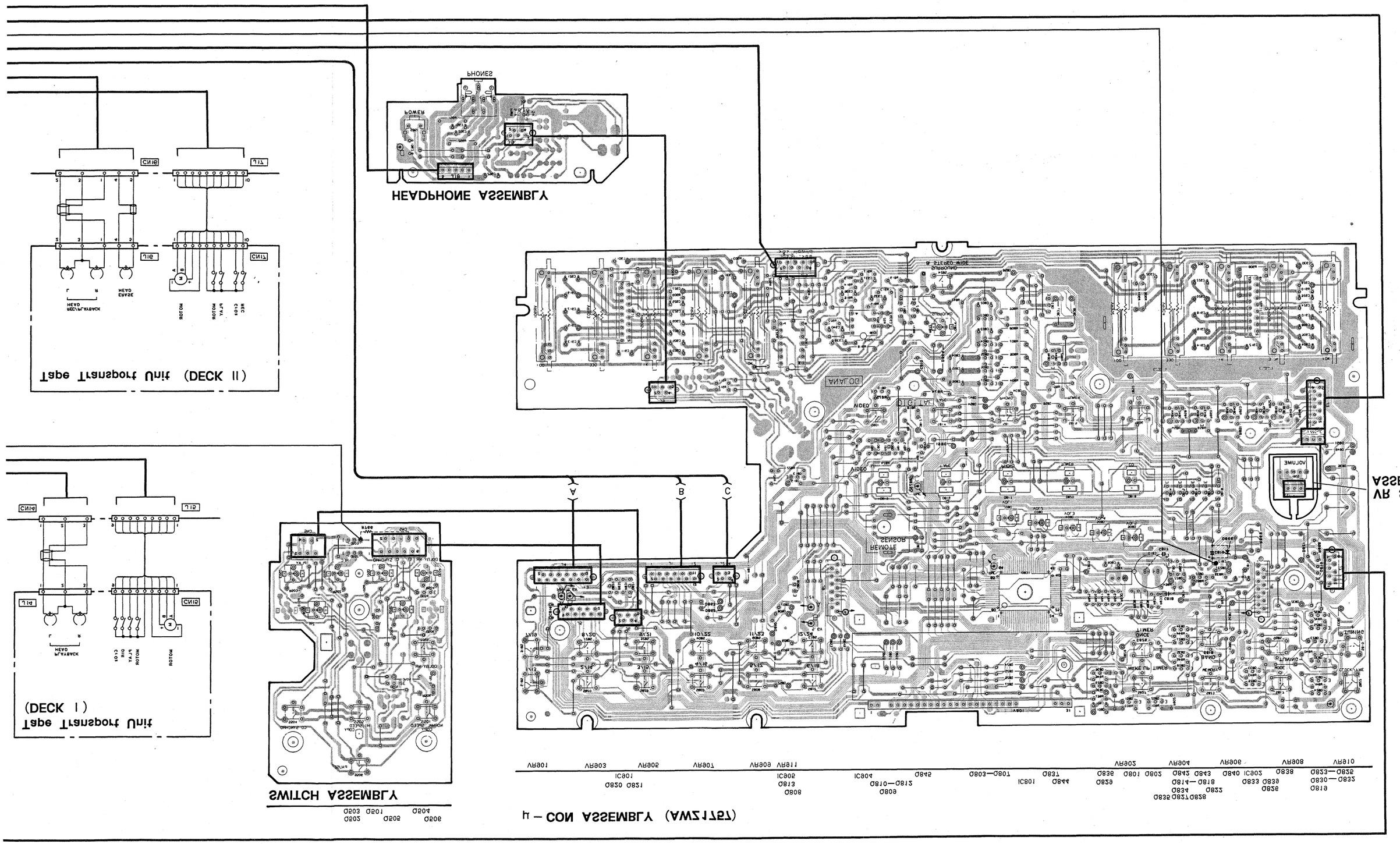
Tape Transport Unit (DECK II)



HEADPHONE ASSEMBLY



VR SW ASSEMBLY


HEADPHONE ASSEMBLY
PHONES
POWER
SWITCH ASSEMBLY
A
B
C
Tape Transport Unit (DECK I)
Tape Transport Unit (DECK II)
CN16
CN17
CN18
CN19
HEAD
ERASE
REC/PLAYBACK
ROTOM
ROTOM
CLOCK
REC
PLAY
MOTOR
DIR
CLOCK
MOTOR
PLAY
REC/PLAYBACK
HEAD
ERASE
ANALOG
DIGITAL
VIDEO
SENSOR
REMOTE
STEREO WIDE
MONAURAL
VOLUME
ASSEMBLY
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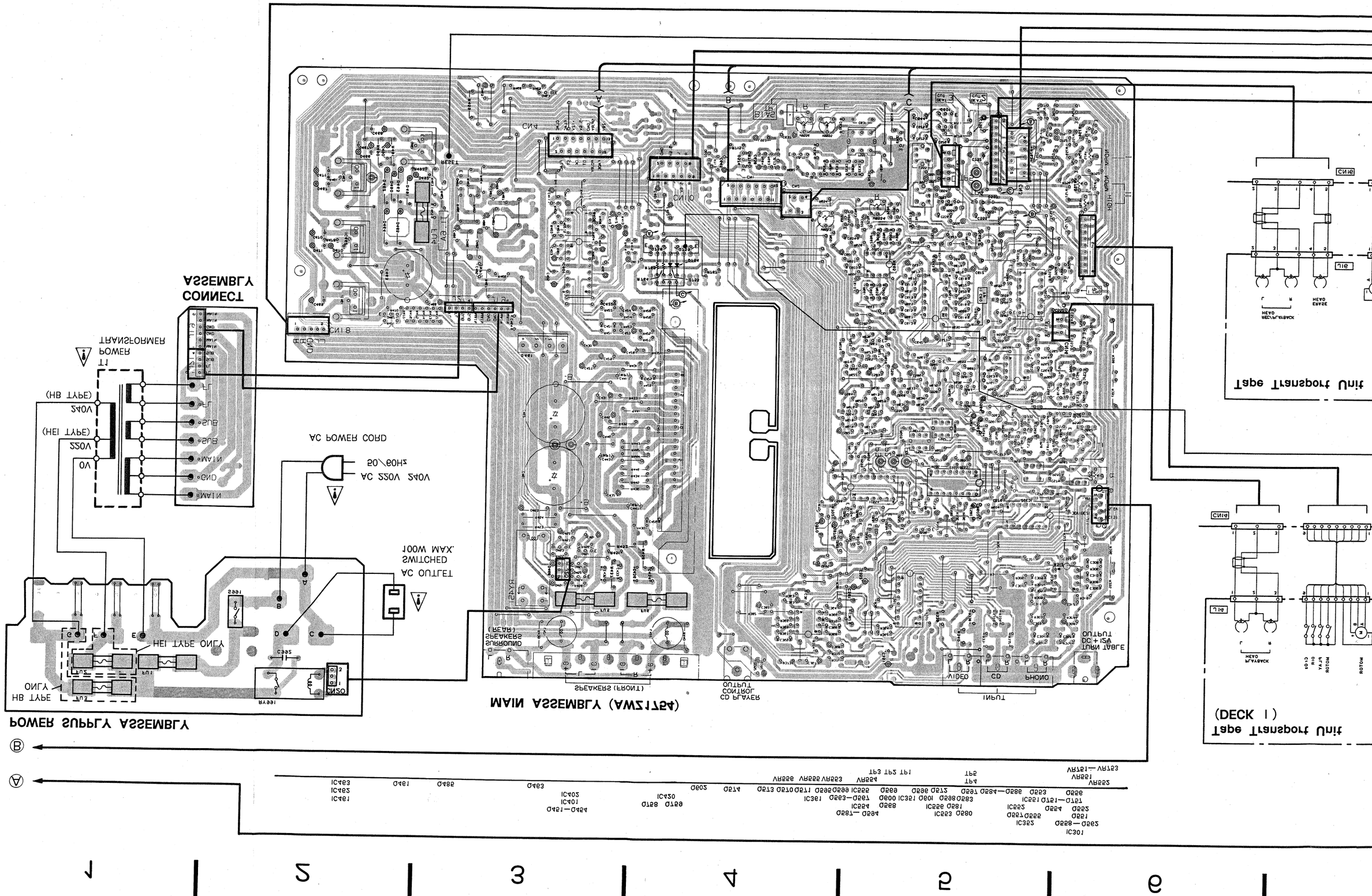
MAIN ASSEMBLY (AWZ1124)
POWER SUPPLY ASSEMBLY
Tape Transport Unit
(DECK 1)
Tape Transport Unit
ASSEMBLY CONNECT
AC POWER CORD
AC OUTLET
SWITCHED
100W MAX.
HB TYPE ONLY
HEI TYPE ONLY
TRANSFORMER
POWER
SPEAKERS (REAR)
SURROUND
SPEAKERS (FRONT)
CD PLAYER
CONTROL
OUTPUT
INPUT
VIDEO
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PHONO
TUNER JACK
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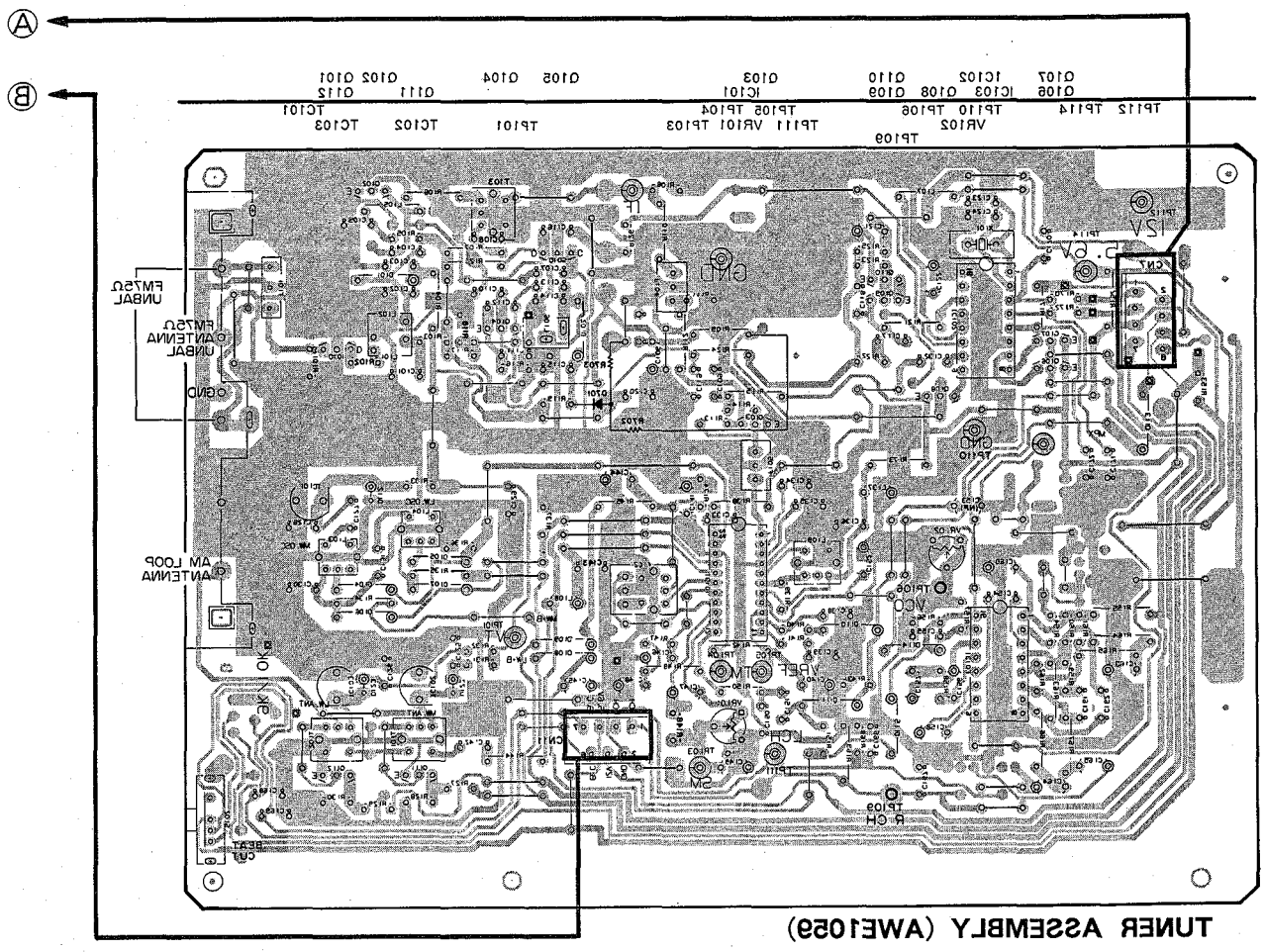


NOTE

1. This P.C.B connection diagram is viewed from the foil side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

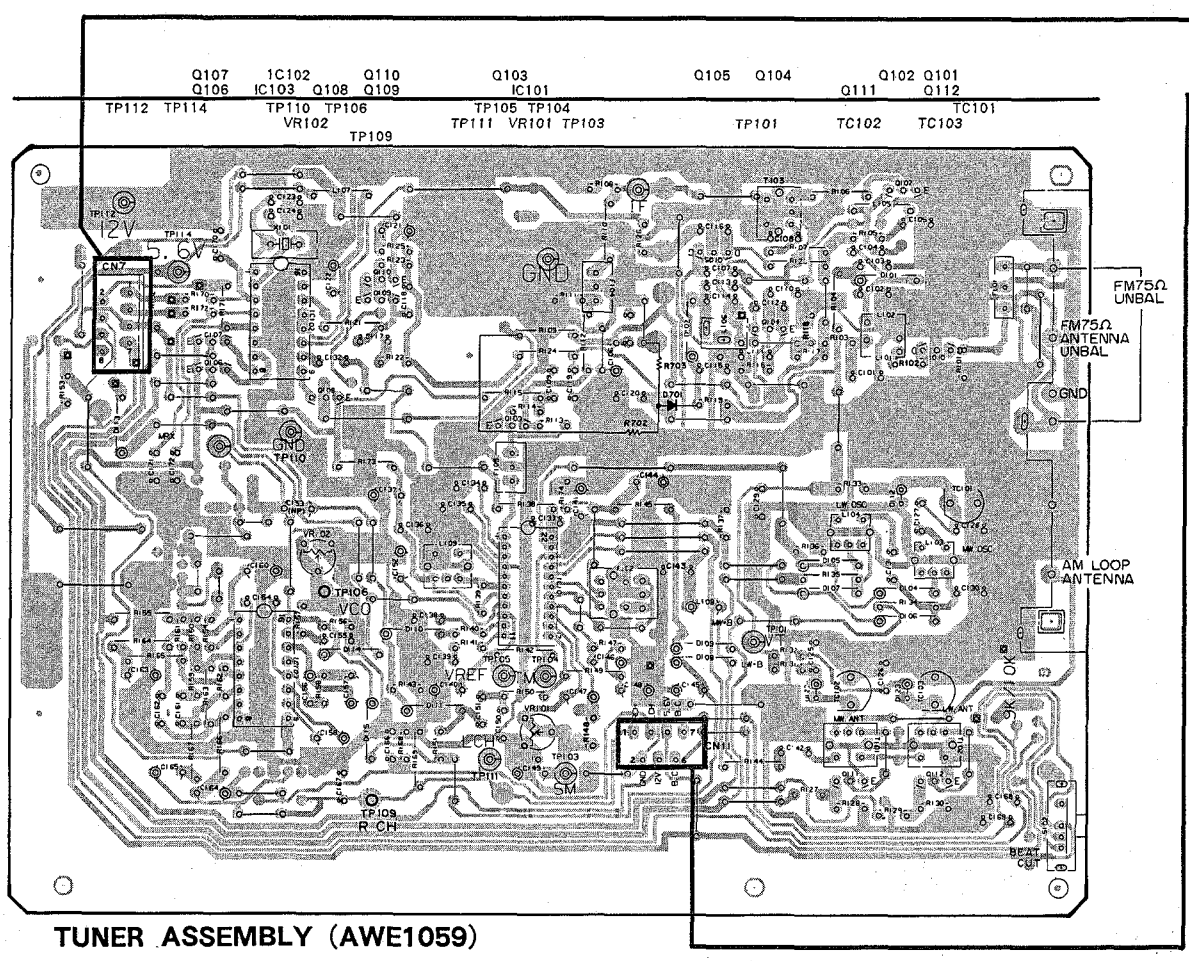
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E)	or	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513		Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ⓞ (double circles) shows negative terminal.
4. The diode terminal marked with ⓞ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

4.6 P.C.BOARDS CONNECTION DIAGRAM



TUNER ASSEMBLY (AWE1059)

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
Q504 (E)	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarity)
C518		Capacitor (Non-polarity)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capacitor terminal marked with ◎ (double circles) shows negative terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

5. ELECTRICAL PARTS LIST

NOTES :

- Parts without part number cannot be supplied.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5 %, and K = 10 %).

560 Ω → 56 × 10^1 → 561 ..... RD1/4PS 5 6 1 J
47k Ω → 47 × 10^3 → 473 ..... RD1/4PS 4 7 3 J
0.5 Ω → 0R5 ..... RN2H 0 R 5 K
1 Ω → 010 ..... RS1P 0 1 0 K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ..... RN1/4SR 5 6 2 1 F

Miscellaneous Parts

Mark	Symbol & Description	Part No.
	TUNER assembly	AWE1059
	MAIN assembly	AWZ1754
	μ − CON assembly	AWZ1757
	HEADPHONE assembly	
	POWER SUPPLY assembly	
	SWITCH assembly	
	VR SW assembly	
	CONNECT assembly	
⚠ ★	T1 Power transformer	ATS1125
⚠★★	FU5,FU6 Fuse (T2A/250V) (HEI type)	AEK-017
⚠★★	FU5,FU6 Fuse (T2A/250V) (HB type)	AEK-511
⚠★★	FU1 Fuse (T1.25A/250V) (HEI type)	AEK-018
⚠★★	FU1 Fuse (T1.25A/250V) (HB type)	AEK-509
⚠★★	FU2 Fuse (T1A/250V) (HEI type only)	AEK-402
⚠★★	FU3 Fuse (T1A/250V) (HB type only)	AEK-508
⚠★★	FU4 Fuse (T1.6A/250V) (HEI type)	AEK-405
⚠★★	FU4 Fuse (T1.6A/250V) (HB type)	AEK-510
⚠	AC socket (AC OUTLET) (HEI type)	AKP1024
⚠	AC socket (AC OUTLET) (HB type)	AKP1023
⚠	AC power cord (HEI type)	ADG1021
⚠	AC power cord (HB type)	ADG-063

Tape Transport Unit (DECK I)

Mark	Symbol & Description	Part No.
★★	Motor	AZX1022
★★	Leaf switch	AZS1063
★★	Leaf switch	AZS1064
★★	Leaf switch	AZS1065
★★	Playback head	AZP1026

Tape Transport Unit (DECK II)

Mark	Symbol & Description	Part No.
★★	Motor	AZX1019
★★	Leaf switch (MOTOR)	AZS1059
★★	Leaf switch (PLAY)	AZS1060
★★	Leaf switch (CrO_2)	AZS1061
★★	Leaf switch (REC)	AZS1062
★★	REC/PLAYBACK head	AZP1024
★★	Erase head	AZP1025

TUNER Assembly (AWE1059)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC103	AN7470P
★★	IC101	LA1265S
★★	IC102	LM7001
★★	Q106 – Q108	DTA143ES
★★	Q109,Q110	2SC1740SLN
★★	Q103,Q104	2SC2668
★★	Q102	2SC2786
★★	Q111,Q112	2SC2878
★★	Q105	2SK161
★★	Q101	2SK241
★	D101,D102	ITT310
★	D112,D122,D123	SVC321C3 (SVC321D3)
★	D106,D107,D701	1SS252
★	D104,D105	1SS85
★	D108 – D111,D113 – D115	HSS104

SWITCH

Mark	Symbol & Description	Part No.
★★	S102 Slide switch (BEAT CUT)	ASH1021

COILS,FILTERS AND TRANSFORMERS

Mark	Symbol & Description	Part No.
	L103 AM OSC Coil	ATB-100
	L102 FM Coil	ATC1002
	L101 FM Coil	ATC1004
	L106 FM Coil	ATC1011
	L104 LW OSC Coil	ATD-023
	L109 FM Detector coil	ATE-079
	L105,L107 Axial inductor	LAU2R2M
	L108 Inductor	LTA472J
	F105 FM Ceramic filter	ATF-107
	F104 FM Ceramic filter	ATF-119
	F101 FM Bandpass filter	ATF-202
	F102 AM Ceramic filter	ATF1042
	T101 AM Antenna transformer	ATB-095
	T102 LW Antenna transformer	ATD1002
	T103 FM Matching transformer	ATE-063

CAPACITORS

Mark	Symbol & Description	Part No.
	TC101,TC102 Ceramic trimmer	ACM-015
	TC103 Ceramic trimmer	ACM-020
	C107	CCDCH010C50
	C104	CCDCH020C50
	C130	CCDCH560J50
	C102	CCDRH150J50
	C114	CCDTH180J50
	C128	CCMCH070D50
	C113	CCMCH150D50
	C111,C116,C123,C124	CCMCH150J50
	C112,C133	CCMCH330J50
	C105,C170 – C172	CCMSL101J50
	C153	CEANP010M50
	C158	CEASR22M50
	C152	CEAS0R1M50
	C140,C164,C165	CEAS010M50
	C156	CEAS1R5M50
	C144	CEAS100M25
	C149	CEAS2R2M50
	C157	CEAS3R3M50
	C146,C148	CEAS4R7M50
	C106,C121,C122,C137,C141,C145, C147,C160,C163	CEAS330M16
	C117,C119	CFTXA224J50
	C115,C161,C162	CKDYB102K50
	C166,C167	CKDYB472K50
	C101,C103,C108,C110,C118.C132, C139,C142	CKDYF103Z50
	C150	CKDYF222Z50
	C109,C120,C125,C126,C129, C134 – C136,C143,C168,C169	CKDYF223Z50
	C151,C154	CKDYF473Z50
	C138	CKMYB221K50
	C131	CQSA301J50
	C127	CQSA431J50
	C155	CQSA471J50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR101 Semi-fixed (22k Ω)	VRTB6VS223
★	VR102 Semi-fixed (4.7k Ω)	VRTB6VS472
	R145	RD1/2PM220J
	R109	RD1/4PM151J
	R155,R173	RFA1/4PS□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X101 Crystal resonator	ASS1005
	4P Terminal (ANTENNA)	AKA1010

MAIN Assembly (AWZ1754)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC553	CXA1100P
★★	IC301,IC361,IC402,IC552,IC555	M5218P
★★	IC556	M74LS05P
★★	IC420	STK4142-2GP
★★	IC351	TC4052BP
★★	IC352,IC551,IC554	TC4066BP
★★	IC401	TC9154AP
⚠★★	IC463	μ PC78M05H
⚠★★	IC462	μ PC78M10H
⚠★★	IC461	μ PC7812H
★★	Q753,Q759	RN1201
★★	Q580,Q581,Q584,Q588,Q585, Q590,Q592,Q594,Q595	RN1203
★★	Q586,Q587,Q589,Q591,Q593, Q596,Q602	RN2203
★★	Q453,Q463,Q573,Q751,Q752,Q758	2SA1048
★★	Q570,Q571	2SA1515
★★	Q485	2SB560
★★	Q461	2SB834
★★	Q563,Q564	2SC1740SLN
★★	Q451,Q452,Q454,Q462, Q551 – Q562,Q565 – Q568, Q574,Q582,Q583,Q756,Q757	2SC2458
★★	Q569	2SC2603
★★	Q572,Q599 – Q601	2SC2878
★★	Q754,Q755	2SC3377
★★	Q597,Q598	2SK373
⚠ ★	D452	HZS4BLL
★	D487	RD30EB
★	D488	RD5.6ESB
★	D466	RD6.2ESB
★	D413	RD8.2ESB
⚠ ★	D462 – D465,D485,D486	S5566
	D490,D491	S5566
★	D391,D392,D411,D412,D451,D453, D467 – D471,D492,D551 – D556, D570,D571,D559 – D565, D751 – D754	HSS104
⚠ ★	D461	4D4B44
★	D557,D558	1SS252

RELAY

Mark	Symbol & Description	Part No.
★★	RY451 Relay	ASR1005

COILS,FILTERS AND TRANSFORMER

Mark	Symbol & Description	Part No.
	L421,L422 AF choke coil	ATH-133
	L555,L556 Trap coil	ATM-037
	L551,L552 Trap coil	ATM1001
	L557 Inductor	LTA102J
	L553,L554 Inductor	LTA392J
	F551,F552 Dolby filter	ATF-210
	T551 BIAS oscillator coil	ATX-043

CAPACITORS

Mark	Symbol & Description	Part No.
	C631 (2000p)	ACE1020
⚠	C464 (0.01 μ F/AC150V)	ACG1005
	C461,C462 (3300 μ F/42V)	ACH-249
	C625,C626	CCCSL101K500
	C555,C556	CCMCH100D50
	C305	CCDSL101J50
	C425,C426	CCMCH470J50
	C301,C302,C306,C361,C362, C365,C366,C603,C604	CCMSL101J50
	C443,C485	CEANP100M50
	C447	CEANP220M50
	C551	CCDSL271J50
	C441	CEANP470M50
	C587,C588	CEASR22M50
	C637	CEASR47M50
	C577,C578	CEASR68M50
	C363,C364,C367,C368,C423, C424,C559,C560,C573,C574, C585,C592,C601,C602	CEAS010M50
	C303,C304	CEAS0R1M50
	C445,C446,C466,C490, C581 – C584,C589 – C591,C755	CEAS100M50
	C575,C576,C753	CEAS101M10
	C427 – 432	CEAS101M25
	C621,C622	CEAS2R2M50
	C486	CEAS220M100
	C561,C562,C751,C752	CEAS220M16
	C451,C452	CEAS221M10
	C611,C612,C642,C645	CEAS330M16
	C463	CEAS332M25
	C401 – C406,C567,C568,C579, C580,C628	CEAS4R7M50
	C321,C322,C351,C381,C382,C411, C412,C467,C468,C471,C565,C566, C586,C609,C610,C627	CEAS470M10
	C311,C312	CEAS6R8M50
	C469,C470,C638	CEAS470M16
	C487,C488	CEAS470M50
	C619,C620,C630	CFTXA103J50
	C633,C634	CQMA123J50
	C617,C618,C635	CFTXA153J50
	C615,C616	CFTXA473J50
	C571,C572	CQMA223J50
	C569,C570	CQMA273J50
	C607,C608	CFTXA563J50
	C465	CKCYB103K50
	C309,C310	CKCYB152K50
	C307,C308	CKCYB562K50
	C433,C436	CKCYX104M25
	C643	CKCYX473M25

Mark	Symbol & Description	Part No.
	C640,C641	CKDYF473Z50
	C636	CKMYB221K50
	C434,C435	CKDYX104M25
	C552	CKMYB271K50
	C421,C422,C553,C554	CKMYB331K50
	C623,C624	CKMYB681K50
	C557,C558	CKMYB821K50
	C632	CQMA123K250
	C605,C606	CQMA222K50
	C644	CQMA272K50
	C563,C564	CQMA332K50
	C613,C614	CQMA472K50
	C629	CQMA682K50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR551,VR552,VR752 Semi-fixed (20k Ω)	VRTM6H203
★	VR751,VR753 Semi-fixed (50k Ω)	VRTM6H503
★	VR553,VR554 Semi-fixed (20k Ω)	VRTM6V203
★	VR555,VR556 Semi-fixed (200k Ω)	VRTM6V204
⚠	R453,R454	RS1LMF102J
	R464,R465,R691	RD1/2PM□□□J
⚠	R446	RD1/4PMFL101J
⚠	R462	RD1/4PMFL151J
⚠	R443,R444	RD1/4PMFL222J
	R587,R588	RD1/4PMFL303J
⚠	R445	RD1/4PMFL471J
⚠	R439,R440	RD1/4PMF100J
	R441	RD1/4PMF101J
	R467,R486	RD1/4PMF472J
	R395 – R398,R433 – R438,R442, R463,R485	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	6P Pin jack	AKB1024
	2P Pin jack	AKB1039
	4P Terminal (SPEAKERS)	AKE-109
	DC jack	AKN-203
	Mini jack	AKN-207

μ – CON Assembly (AWZ1757)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC901,IC902	BA3812L
★★	IC904	M5218P
★★	IC801	PDG018-A
★★	IC905	TC4066BP
★★	Q803 – Q807,Q812, Q814 – Q818,Q820,Q823 – Q829	RN1201
★★	Q808,Q809,Q811,Q830 – Q836	RN2203
★★	Q813,Q819,Q821,Q837 – Q840, Q842 – Q844	2SA1048
★★	Q801,Q802,Q810,Q822,Q845	2SC2458
★	D816 – D820	AEL1014
★	D802 – D806	AEL1040
★	D814	AEL1065
★	D801,D807 – D813,D815, D821 – D838,D840 – D842, D844 – D861	HSS104
	D862 – D864	1SS252
	D866	RD6.2EB

SWITCHES

Mark	Symbol & Description	Part No.
★★	S801,S803 – S806,S808 – S828 Tact switch (VIDEO,TUNING (+,–),PHONO, TAPE, MODE, BAND, TUNER, CLOCK/FREQ, MEMORY, TIMER, SURROUND & STEREO WIDE, 1/13 – 12/24)	ASG-711

COIL

Mark	Symbol & Description	Part No.
	L801 Axial inductor	LAU220K

CAPACITORS

Mark	Symbol & Description	Part No.
	C810 (0.47F/5.5V)	ACH1037
	C807,C923,C924	CCMSL101J50
	C939,C940	CCMSL121J50
	C915,C916	CEASR15M50
	C919,C920	CEASR68M50
	C819	CEAS2R2M50
	C815,C929 – C932	CEAS470M16
	C812,C813	CEJA010M50
	C901,C902,C927,C928	CEJA100M16
	C809,C817	CEJA101M10
	C801	CFTXA104J50
	C905,C906	CFTXA153J50
	C917,C918	CFTXA183J50
	C921,C922	CFTXA393J50
	C911,C912	CFTXA683J50
	C811	CKDYB103K50
	C903,C904	CKDYB182K50
	C913,C914	CKDYB392K50
	C909,C910	CKDYB682K50
	C802 – C806,C814,C816	CKDYF223Z50
	C808,C818	CKDYF473Z50
	C925,C926	CKMYB331K50
	C907,C908	CKMYB391K50
	C935 – C938	CKMYB471K50

RESISTORS

Mark	Symbol & Description	Part No.
★	VR901 – VR910 Slide variable resistor (30k Ω) (GRAPHIC EQUALIZER)	ACU1021
	R804 – R808,R823,R824	RD1/2PM□□□J
	R820	RD1/4PM471J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	V801 Fluorescent indicator tube	AAV1045
	X801 Ceramic resonator	AAS1022
	Remote control sensor unit	AXX1005

HEADPHONE Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S951 Tact switch (POWER)	ASG1022 (ASG-712)

CAPACITORS

Mark	Symbol & Description	Part No.
	C961,C962	CKDYF473Z50
	C951,C952	CKMYB102K50

RESISTORS

Mark	Symbol & Description	Part No.
	R951,R952	RD1/2PMF331J

OTHERS

Mark	Symbol & Description	Part No.
	Mini jack	AKN1004

POWER SUPPLY Assembly

SWITCH AND RELAY

Mark	Symbol & Description	Part No.
★★	S991 Push switch (MAIN POWER)	ASG1006
⚠★★	RY991 Relay	ASR1012

CAPACITOR

Mark	Symbol & Description	Part No.
⚠	C992 (0.01/AC250V)	ACG1002

OTHERS

Mark	Symbol & Description	Part No.
	Connect terminal	AKF1005

SWITCH Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q501 – Q503,Q505,Q506	RN1201
★★	Q504	RN2201
★	D503 – D505,D508	AEL1064
★	D501,D502	AEL1065
★	D509,D510	HSS104

SWITCHES

Mark	Symbol & Description	Part No.
★★	S501,S502,S504 – S506 Tact switch (NORMAL COPY, DOLBY NR, CD, SYNCHRO REC, HIGH SPEED, COPY, PAUSE)	ASG-711

RESISTORS

Mark	Symbol & Description	Part No.
	R501 – R506,R510	RD1/8PM□□□J

VR SW Assembly

SWITCH

Mark	Symbol & Description	Part No.
★★	S981 Momentary switch (VOLUME)	ASD1001

CONNECT Assembly

There is not supplied parts in this assembly.

6. ADJUSTMENTS

6.1 TAPE DECK SECTION

6.1.1 Mechanical adjustment

●Adjustment point are as shown in Fig.6-8.

1. Tape Speed Adjustment							
No.	Mode	Test tape	Adjustment point		Measuring point	Adjustment prcedure	Remarks
1	PLAY	Play the 3kHz section of the STD – 301.	Deck I	– (Double speed)	TP1 (Lch) TP3 (Rch)	Put DECK I into PLAY mode, and make ashort circuit between TP4 and TP5. Record the measured value at the measuring points.	Release the short circuit after adjustment.
2				VR751 (Normal speed)		Press the PLAY switch and adjust so that the frequency becomes 3015Hz.	
3			Deck II	VR752 (Double speed)		Put DECK II into PLAY mode, and make ashort circuit between TP4 and TP5. Adjust so that the frequency becomes equal to the value obtained in step No.1.	Release the short circuit after adjustment
4				VR753 (Normal speed)		Press the PLAY switch and adjust so that the frequency becomes 3015Hz.	

6.1.2 Electrical adjustments

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and demagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before com -mencing any electrical adjustments.
4. The reference signal is 0dBv = 1Vrms.
5. Connect a 50k Ω (or between 47 to 52k Ω) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR : OFF

Test Tepes

STD – 331B : Playback adjustments (See Fig.6 – 1)
STD – 608A : NORMAL blank tape
STD – 620 : CrO_2 blank tape
STD – 610 : METAL blank tape

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback frequency response check.
3. Playback level adjustment.

Recording sections

1. Bias oscillate frequency adjustment.
2. Recording level adjustment.
3. Recording bias adjsutment.
4. Recording and playback frequency response check.
5. Copy mode playback frequency response check.

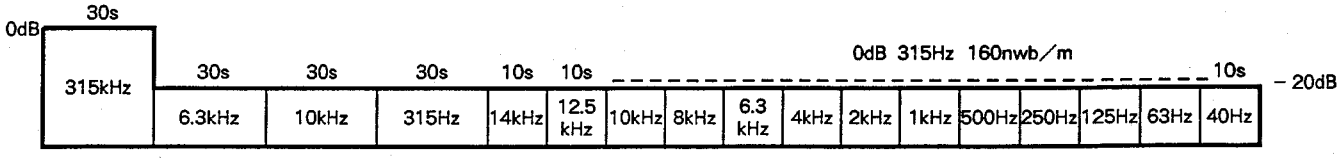


Fig.6 – 1 Contents of the test tape STD – 331B

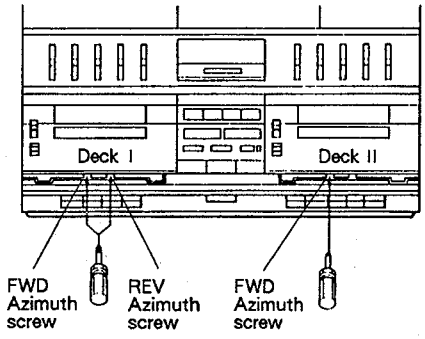


Fig.6 – 2 Head azimuth adjustment

Test tape	STD – 331B (NORMAL)
DOLBY NR switch	OFF

● Due to "edge effect", compensate the right channel by – 0.5dB at 125Hz, and by – 1dB at 63Hz.

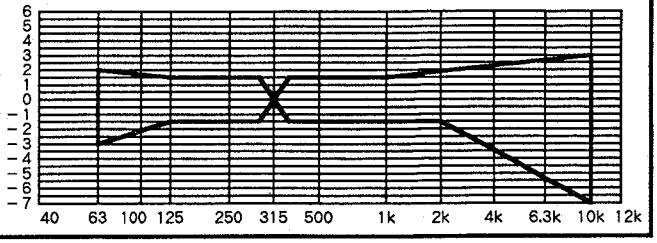


Fig.6 – 3 Allowable playback frequency response zone

Playback Section

1. Head Azimuth Adjustment

● Turn VR551 and VR552 (Deck II) to mechanical center positons.

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	PLAY	Play the 10kHz/– 20dB section of STD-331B test tape.	Head azimuth adjustment screw. (See.Fig.6 – 2)	TP1 (Lch) TP3 (Rch)	Maximum playback signal level.	
2	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Frequency Response Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarkes
1	PLAY	STD-331B	–	TP1 (Lch) TP3 (Rch)	The allowable zone shown in Fig.6 – 3 is to be satisfied.	

3. Playback Level Adjustment

● This adjustment determines the DOLBY NR level, and must be performed with great care.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarkes
1	PLAY	Play the 315Hz/0dB section of the STD-331B test tape.	Deck II	VR551 (Lch)	TP1 (Lch) TP3 (Rch)	– 23.0dBv ± 2.5dB	
				VR552 (Rch)			

Recording Section

1. Bias Oscillate Frequency Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	REC	Load the STD-610 test tape with no input signal.	Deck II	T551	Jumper wire (See Fig.6 – 8)	105kHz ± 1kHz	

2. Recording Level Adjustment

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	REC PAUSE	Apply a 315Hz/– 20dBv signal to the CD input terminals.	–		–	–	
2		Set the DOLBY NR switch to the ON position.					
3	REC/ PLAY	Record the above signal onto the STD-608A test tape, and playback.	Deck II	VR553 (Lch) VR554 (Rch)	TP1 (Lch) TP3 (Rch)	Compensate the playback signal level so that it becomes – 23.0dBv ± 2.5dB by repeating recording and playback.	

3. Recording Bias Adjustment

● After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

No.	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1	REC	Record a 315Hz signal and a 10kHz signal from the CD input terminals, and play them back.	Deck II	VR555 (Lch) VR556 (Rch)	TP1 (Lch) TP3 (Rch)	Compensate the playback signal level of 10kHz so that it becomes – 23.0dBv ± 2.5dB against the signal level of 315Hz by repeating recording and playback.	

4. Recording and Playback Frequency Response Check

No.	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	REC/ PLAY	STD-608A (NORM) NR : OFF/ON	Check	TP1 (Lch) TP3 (Rch)	The allowable zone shown in Fig6 – 4 is to be satisfied.	
2	REC/ PLAY	STD-620 (CrO_2) NR : OFF/ON	Check	TP1 (Lch) TP3 (Rch)	The allowable zone shown in Fig6 – 5 is to be satisfied.	

Test tape	STD – 608A (NORMAL)	Test tape	STD – 608A (NORMAL)
DOLBY NR switch	OFF	DOLBY NR switch	ON

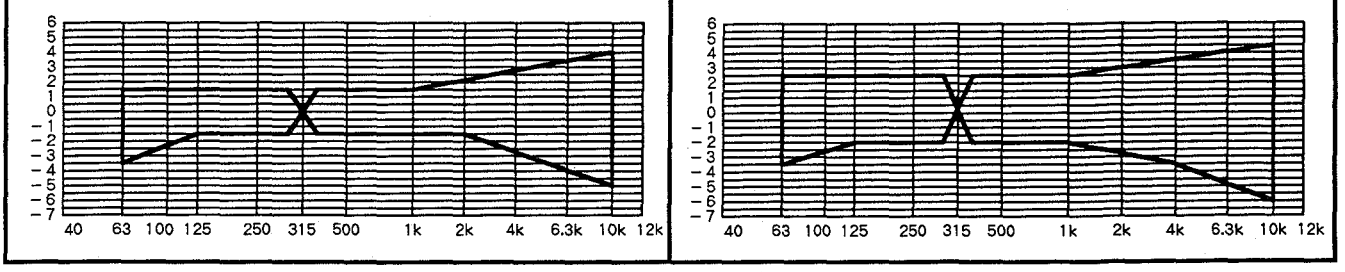


Fig.6 – 4 Recording & playback frequency response tolerance zone (NORM)

Test tape	STD – 620 (CrO_2)	Test tape	STD – 620 (CrO_2)
DOLBY NR switch	OFF	DOLBY NR switch	ON

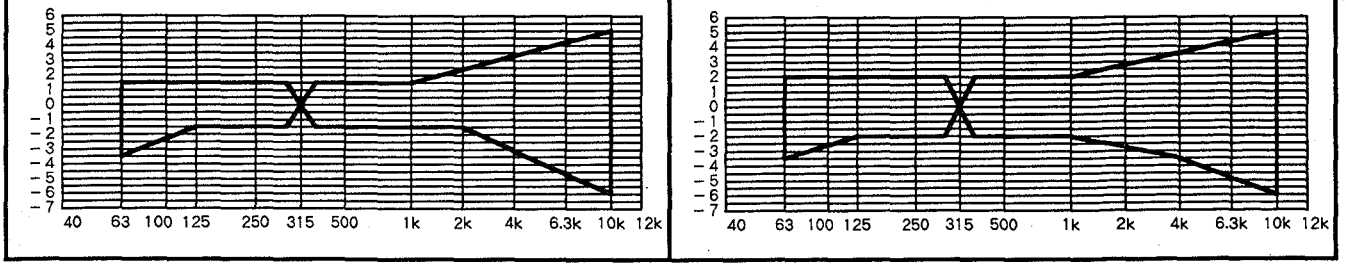


Fig.6 – 5 Recording & playback frequency response tolerance zone (CrO_2)

6.2 TUNER SECTION

6.2.1 AM (MW) Tuner Adjusment

●Make the wire connections as shown in Fig. 6 – 6.

●Set the function to MW.

Step No.	Adjustment	AM SG (400Hz,30 % modulation)		RX – Z71L Reception Frequency Display	Adjustment Location	Adjustment specification
		Frequency (kHz)	Level (dB μ V/m)			
1	OSC voltage adjustment	–	–	531kHz	L103	Adjust TP101 to 1.25V ± 0.1V.
2		–	–	1602kHz	TC101	Adjust TP101 to 10V ± 0.5V.
3	MW sensitivity adjustment	603	74	603kHz	T101	Adjust the output terminal (TP111 : Lch, TP109 : Rch) voltage to the maximum.
4		1395		1395kHz	TC102	
5		603		603kHz	F102	

6.2.2 AM (LW) Tuner Adjustment

●Make the wire connections as shown in Fig. 6 – 6.

●Set the function to LW.

Step No.	Adjustment	AM SG (400Hz,30 % modulation)		RX – Z71L Reception Frequency Display	Adjustment Location	Adjustment specification
		Frequency (kHz)	Level (dB μ V/m)			
1	OSC voltage adjustment	–	–	281kHz	L104	Adjust TP101 to 4.95V.
2	LW sensitivity adjustment	164	74	164kHz	T102	Adjust the output terminal (TP111 : Lch, TP109 : Rch) voltage to the maximum.
3		254		254kHz	TC103	

6.2.3 FM Tuner Adjustment

●Make the wire connections as shown in Fig. 6 – 7.

●Set the function to FM.

Step No.	Adjustment	FM SG (1kHz ± 75kHz dev.)		RX – Z71L Reception Frequency Display	Adjustment Location	Adjustment specification
		Frequency (MHz)	Level (dB μ)			
1	Detection coil T - meter adjustment	98.0	60	98.0MHz	L109	Adjust so that the DC voltage between the TP104 and TP105 terminals becomes 0V.
2	FM sensitivity adjustment	98.0	60	98.0MHz	L106 T103	Adjust the output terminal (TP111 : Lch, TP109 : Rch) voltage to the maximum.
3	Stereo distortion adjustment	98.0	60 (＊1)	98.0MHz	T103 (within 90°)	Adjust the output terminal (TP111 : Lch, TP109 : Rch) distortion to the minimum.
4	TUNE indicator level adjustment	98.0	20 (± 2)	98.0MHz	VR101	Adjust so that the TUNE indicator lights up.
5	FM VCO adjustment	No modulation	60	98.0MHz	VR102	Adjust the TP106 frequency to 76kHz ± 200Hz

(＊1) Stereo Modulation : Main 1kHz L + R ± 68.25Hz dev.
Pilot 19kHz ± 6.75kHz dev.

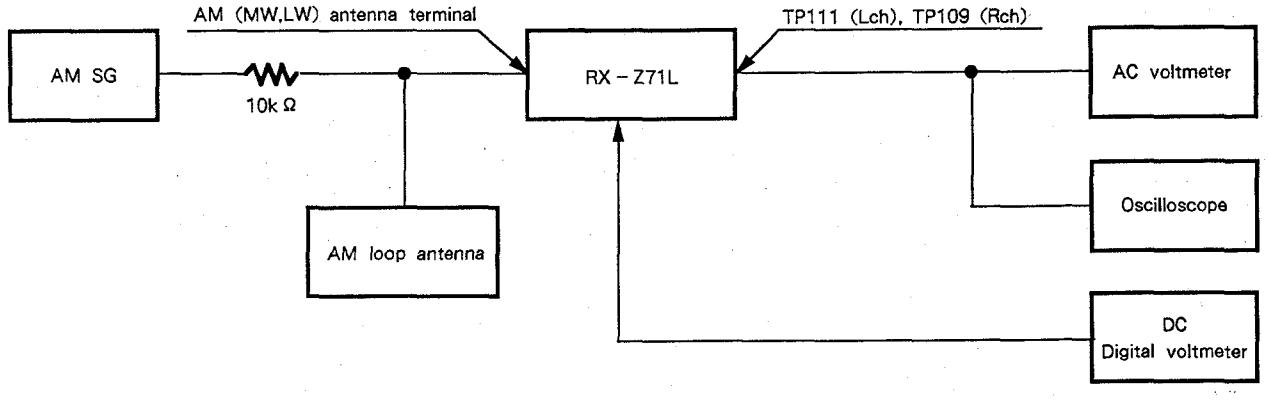


Fig.6 – 6 AM (MW,LW) adjustment wiring diagram

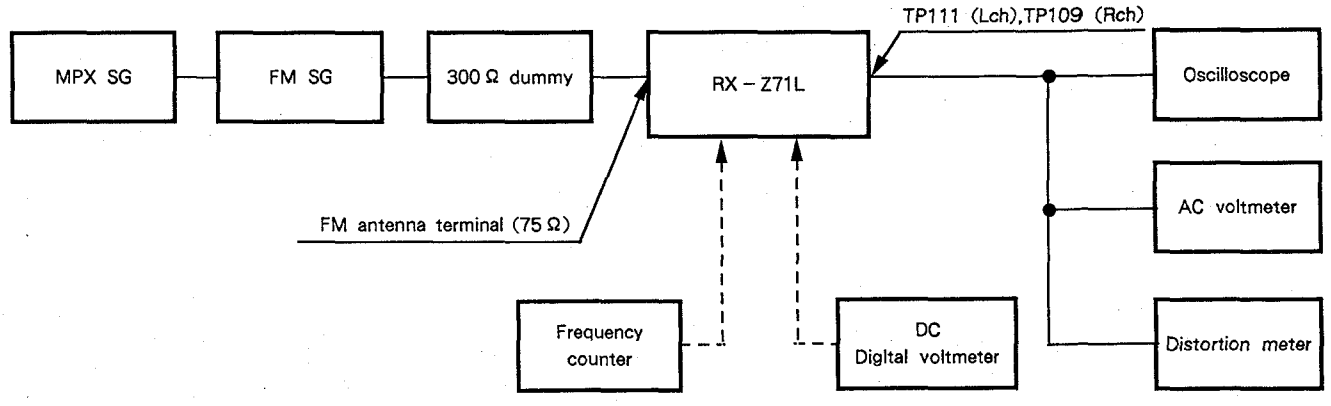


Fig.6 – 7 FM adjustment wiring diagram

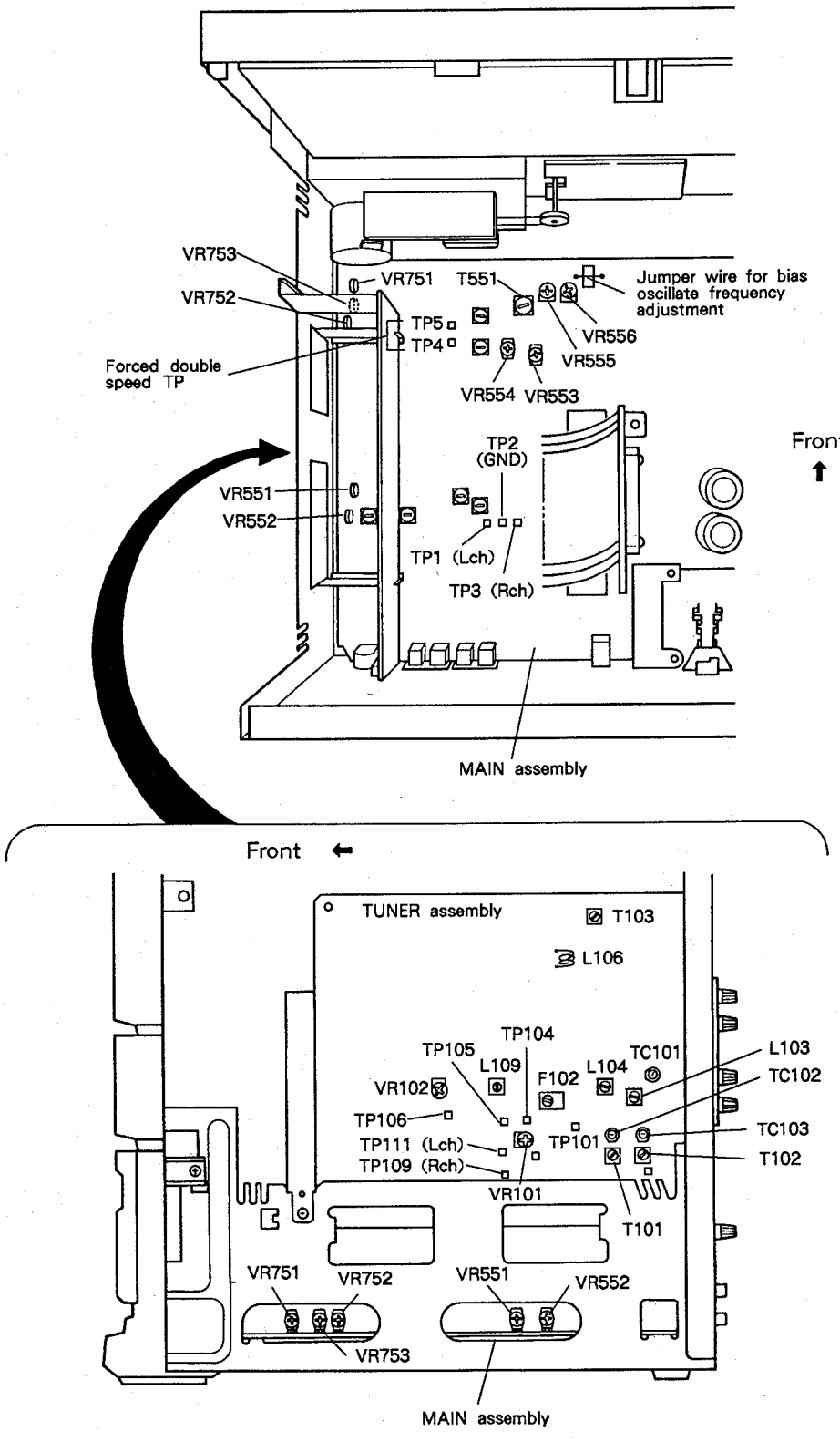


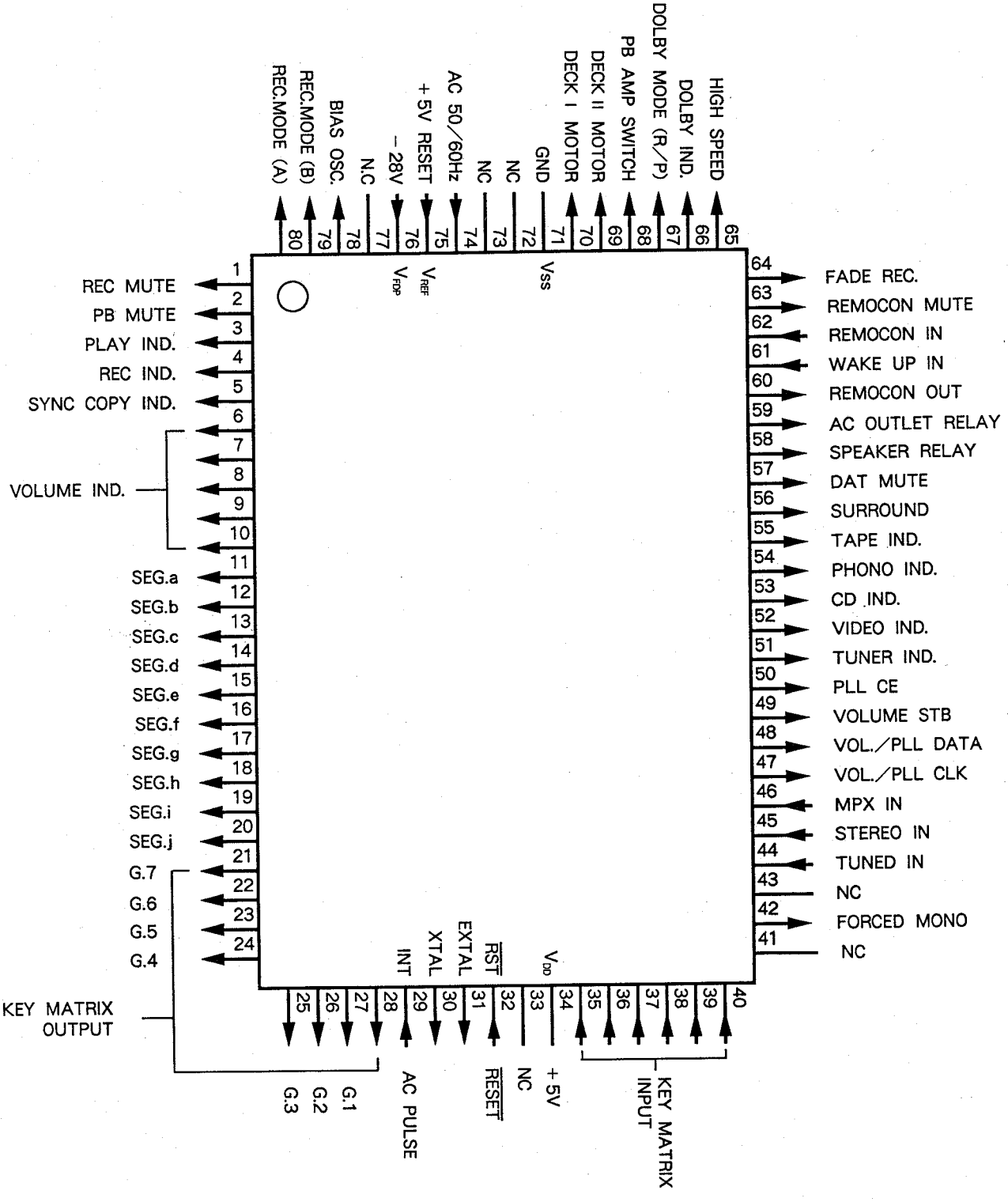
Fig.6 – 8 Adjustment points

7. IC INFORMATION

■ PDG018 – A

Microcomputer

● Pin connections (Top view)



●Pin functions

Pin	Pin name	I/O	Function	Pin	Pin name	I/O	Function
1	PG0	O	REC MUTE output	41	PB2	--	Not use.
2	PG1		PLAYBACK MUTE output	42	PB3	O	Forced mono output
3	PG2		PLAY indicator output	43	NC	--	NC
4	PG3		REC indicator output	44	PX0	I	TUNER TUNED input
5	S8		SYNC COPY indicator output	45	PX1		TUNER STEREO reception input
6	S9		VOLUME indicator output	46	PX2		TUNER MPX reception input
7	S10			47	PA0	O	VOLUME/PLL CLK output
8	S11			48	PA1		VOLUME/PLL DATA output
9	S12			49	PA2		VOLUME STB output
10	S13			50	PA3		PLL CE output
11	S14		FL SEGMENT output (a)	51	PF0		TUNER indicator output
12	S15		FL SEGMENT output (b)	52	PF1		VIDEO indicator output
13	S16		FL SEGMENT output (c)	53	PF2		CD indicator output
14	S17		FL SEGMENT output (d)	54	PF3		PHONO indicator output
15	S18		FL SEGMENT output (e)	55	PE0		TAPE indicator output
16	S19		FL SEGMENT output (f)	56	PE1		SURROUND indicator output
17	S20		FL SEGMENT output (g)	57	PE2		MUTE output for DAT
18	S21		FL SEGMENT output (h)	58	PE3		SPEAKER relay output
19	S22		FL SEGMENT output (i)	59	PY0		AC OUTLET relay output
20	S23		FL SEGMENT output (j)	60	PY1		Remote control signal output for CD
21	T7		FL grid output (7G) ; KEY MATRIX output	61	PY2	I	WAKE UP input
22	T6		FL grid output (6G) ; KEY MATRIX output	62	RMC		Remote control input
23	T5		FL grid output (5G) ; KEY MATRIX output	63	PD0	O	Remote control mute output
24	T4		FL grid output (4G) ; KEY MATRIX output	64	PD1		FADE REC output
25	T3		FL grid output (3G) ; KEY MATRIX output	65	PD2		NORMAL/HIGH SPEED switching output
26	T2		FL grid output (2G) ; KEY MATRIX output	66	PD3		DOLBY indicator output
27	T1		FL grid output (1G) ; KEY MATRIX output	67	PC0		REC/PLAY DOLBY MODE switching output
28	T0		KEY MATRIX output	68	PC1		DECK I /DECK II PLAYBACK AMP switching output
29	INT	I	AC 50/60Hz input	69	PC2		DECK II MOTOR output
30	XTAL	O	Connect the 4.19MHz ceramic resonator between 30 pin and 31 pin.	70	PC3		DECK I MOTOR output
31	EXTAL			71	Vss	GND	GND
32	$\overline{RST}$	I	$\overline{RESET}$ input	72	TX	O	NC
33	NC	--	NC	73	NC	--	NC
34	V_{DD}	5V	+5V power supply voltage	74	TEX	I	AC 50/60Hz input
35	P10	I	KEY MATRIX input	75	V_{REF}		+5V reference voltage input for reset circuit
36	P11			76	V_{FDP}		-28V load power supply input for FDP
37	P12			77	PH0	O	NC for FDP
38	P13			78	PH1		BIAS OSC output
39	PB0			79	PH2		REC MODE (B) output
40	PB1			80	PH3		REC MODE (A) output

8. SPECIFICATIONS

Amplifier Section

Continuous Power Output
- 1kHz (DIN) ..... 40W + 40W (T.H.D. 1% 8Ω)
- 1kHz (DIN music power) ..... 50W + 50W (T.H.D. 1% 8Ω)

Graphic equalizer frequency band ..... 100Hz, 330Hz, 1kHz, 3.3kHz, 10kHz, ±7dB

Hum and Noise (DIN continuous Power/50mW)
- PHONO ..... 68dB / 60dB

Total Harmonic Distortion
- (40Hz to 20,000Hz, 15W, 8Ω) ..... No more than 0.2%

Input terminal (sensitivity / impedance)
- PHONO ..... 2.5mV / 20kΩ
- AUX ..... 150mV / 20kΩ
- CD ..... 240mV / 20kΩ

Frequency characteristics
- PHONO ..... 30Hz to 20kHz ±0.5dB
- AUX ..... 20Hz to 60kHz ±3dB

Tape Deck Section

Systems ..... 4 track, 2-channel stereo

Heads ..... Recording/playback head × 1
Playback head × 1
Erasing head × 1

Motors ..... DC servo 2 speed motor × 2

Wow and Flutter ..... No more than 0.2% (WRMS)

Fast Winding Time ..... Approximately 105 seconds (C-60 tape)

Frequency Response
- -20 dB recording:
- Normal tape ..... 35Hz to 14,000Hz ±6dB
- CrO_2 ..... 35Hz to 15,000Hz ±6dB

Signal-to-noise Ratio
- Dolby NR OFF ..... 56 dB

Noise Reduction Effect
- Dolby B type NR ON ..... More than 10dB (at 5kHz)

Furnished Parts

Operating Instructions 1
Remote control unit 1
Dry cell batteries 2
FM T-type antenna 1
AM Loop Antenna 1

Miscellaneous

Power requirements ..... a.c. 220 Volts~, 50/60Hz
Power consumption ..... 250 W
Dimensions ..... 360(W) × 312(H) × 330(D)mm
Weight (without package) 8.0kg

FM Tuner Section

Frequency range ..... 87.5MHz to 108MHz
Usable Sensitivity ..... 15.3.dBf, IHF(1.2μV/75Ω)
50 dB Quieting Sensitivity ..... Mono: 18dBf (2.2μV/75Ω)
Stereo: 38.3dBf (22.6μV/75Ω)
Sensitivity (DIN) ..... Mono 0.9μV/75Ω
Stereo: 31.5 μV/75Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input)
..... Mono: 77dB
Stereo: 73dB
Signal-to-Noise Ratio (DIN) ..... Mono: 62dB
Stereo: 60dB
Distortion ..... Stereo: 0.5% (1kHz)
Alternate Channel Selectivity 60dB (400kHz)
Stereo Separation 40dB (1kHz)
Frequency response ..... ±2.5dB (30Hz to 15kHz)
Image Interference Ratio 38dB
IF Interference Ratio 110dB
Antenna Input ..... 75Ω unbalanced
Output level (FM 100% MOD) 650mV

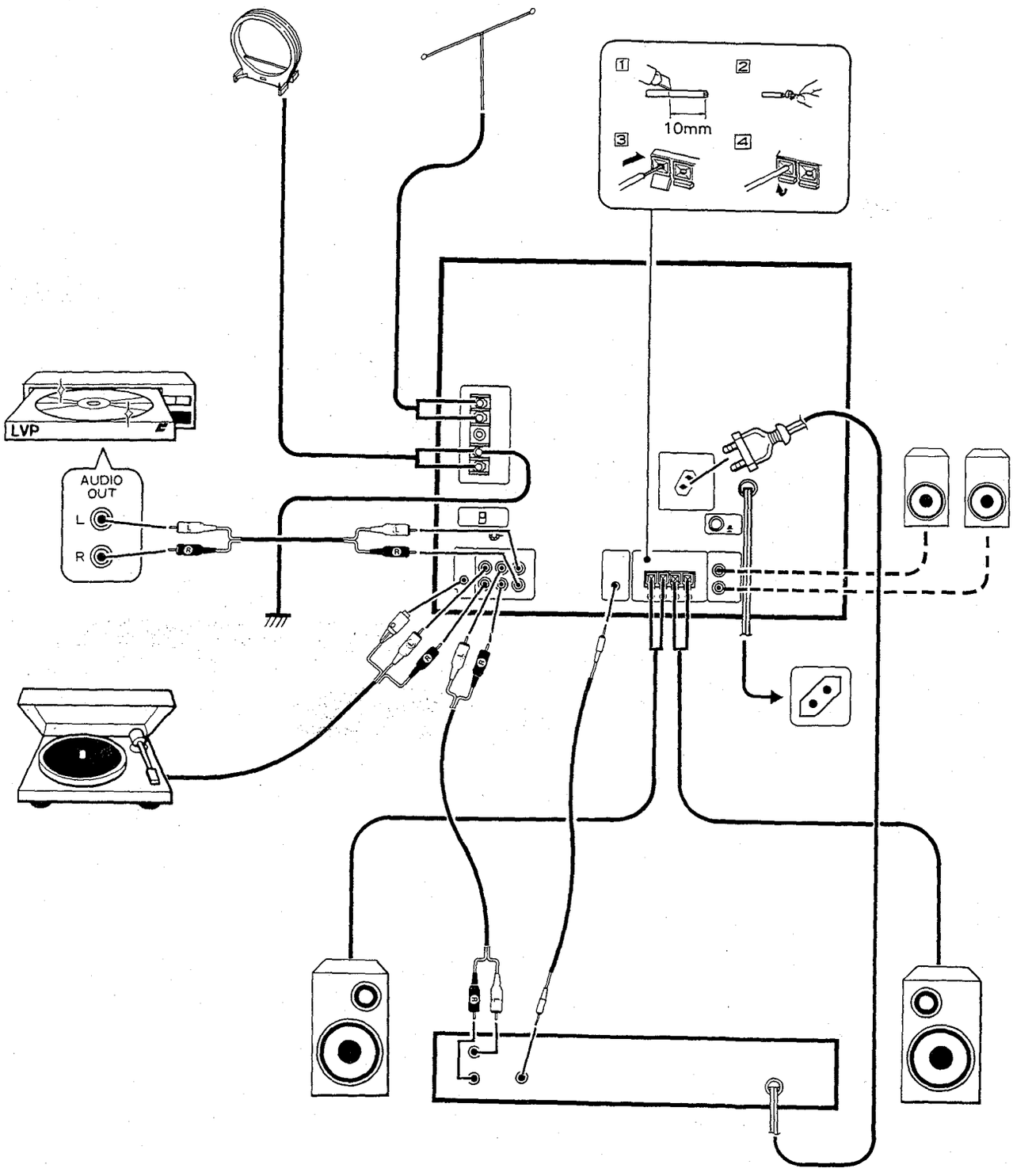
MW (AM) Tuner Section

Frequency range ..... 531kHz to 1,602kHz
Sensitivity (IHF, Loop antenna) 350μV/m
Selectivity 20dB
Signal-to-Noise Ratio 45dB
Image Interference Ratio 40dB
IF Interference Ratio 50dB
Antenna ..... Loop Antenna
Output Level (AM 30% MOD) 150mV

LW Tuner Section (For LW-equipped models only)

Frequency range ..... 153kHz to 281kHz
Sensitivity (IHF, Loop antenna) 1500μV/m
Selectivity 20dB
Signal-to-Noise Ratio 45dB
Image Interference Ratio 30dB
IF Interference Ratio 50dB
Antenna ..... Loop Antenna
Output Level (AM 30% MOD) 150mV

9. CONNECTIONS



Proceed as follows with the set-up and connections:

1. Connect the FM antenna and the AM antenna to the cassette tape deck receiver's ANTENNA terminals. (Use an antenna ground as necessary.)
2. Connect the turntable's cords to the cassette tape deck receiver's PHONO jacks. If any other stereo component is to be used, connect in the same way to the cassette tape deck receiver's input jacks.
3. Connect the speaker cords to the SPEAKERS terminals.
4. Finally, connect the power cord to the AC wall socket.

Connecting the input/output cords

- Connect the plugs properly. Faulty connections can cause noise and also breakdowns and failures.
- The white terminal is for the left channel and the red terminal is for the right channel.

Antenna ground

Although grounding is not necessary for reception it is recommended for protection against damage from lightning if an outdoor FM antenna is used. Grounding is recommended as well to help reduce noise and hum.

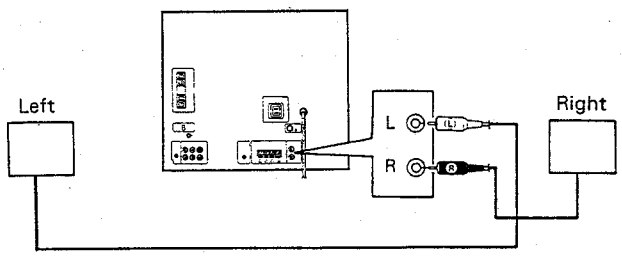
NOTE:
Never make the ground connection to a gas pipe as sparks could cause the gas to ignite.

SPEAKER CONNECTIONS

① Remove the insulation from the cord tip to expose the core wire.
② Twist the core wire.
③ Lower the knob under the terminal and insert the cord.
④ Push up the knob.

- Speaker systems used should have an impedance of between 8ohms and 16ohms.
- Be sure that connections are secure. Check to make sure that wires do not protrude from their terminals.
- Do not allow the speaker cords to become shorted. Damage may result to your equipment.

Connecting a surround speaker



AC OUTLET SWITCHED 100W MAX

Power supplied through this outlet is turned on and off by this equipment's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W.

NOTE:
Do not connect appliances with higher power consumption such as heaters, irons, or television sets to the AC OUTLET, in order to avoid overheating or fire risk.
This can cause this equipment to malfunction.

To control a unit other than this receiver using the remote control unit

① In the case of PIONEER equipment marked SR which is provided with a remote sensor, operate the equipment by aiming the remote control unit at the remote sensor on the equipment.
② For equipment with the SR mark, but without a remote sensor, operation of the equipment by facing the remote control unit towards the remote sensor of the cassette deck receiver is possible with connection from the CONTROL OUT jack to the CONTROL IN jack. Use a commercially available cable with mini-plugs for the connection.

Ground terminal (GND)

Connect this to the ground terminal on the turntable (except for PL-Z81 and PL-Z91).

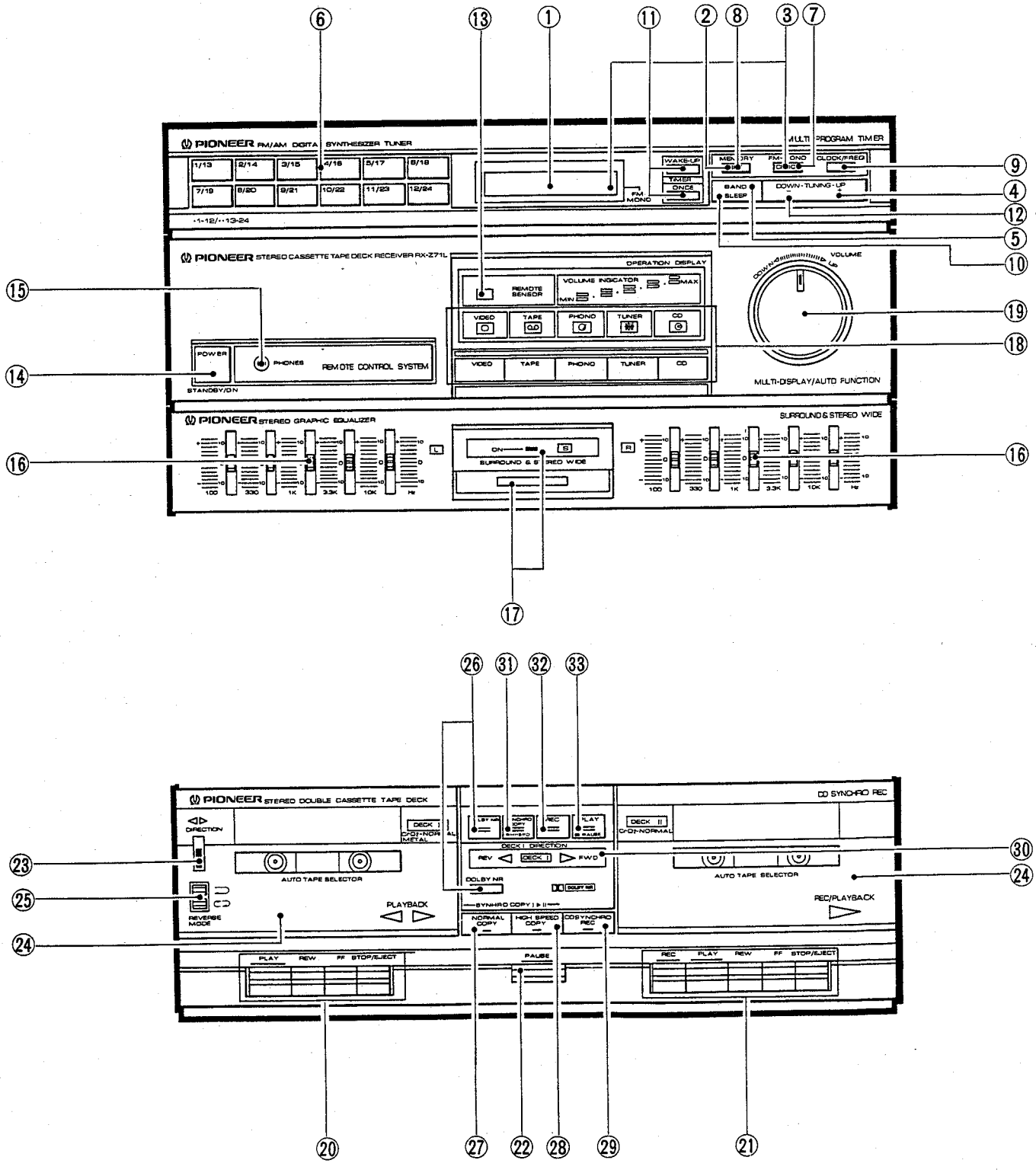
MAIN POWER switch

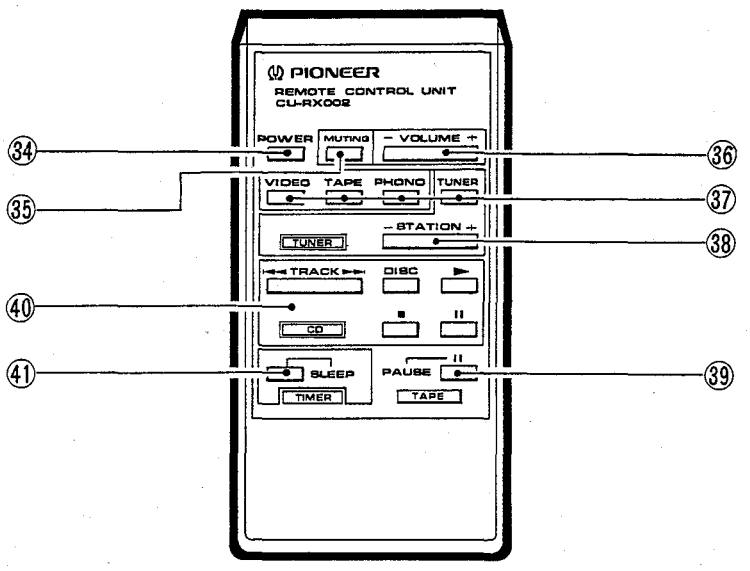
[ON]
While this unit is in a standby status and the power cord is connected to the wall socket, the circuit of the unit will operated continuously. When not usig the unit for a long period, either switch the unit OFF, or remove the power cord from the power socket.
[OFF]
When the switch is OFF, the power to the unit will be cut off.

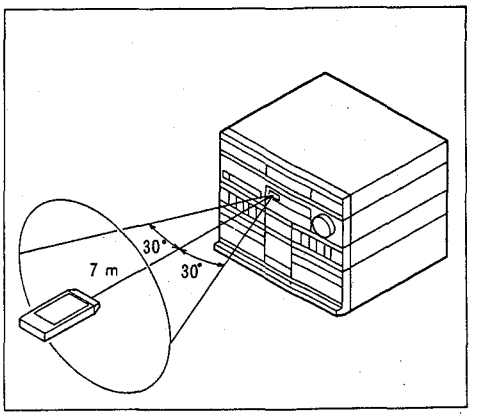
BEAT CUT switch

Beat may occur and be included in recordings when recording AM broadcast or copying while receiving AM broadcast.
In such cases, set this switch to the position where beat is less.

10. PANEL FACILITIES







CASSETTE TAPE DECK RECEIVER [FM/AM TUNER UNIT]

① FREQUENCY / TIME display

Permits reading the received frequency at a glance from the displayed figure. The FM band is indicated by MHz, and the AM (MW or LW) band by kHz.
This display indicates the time.

② MEMORY switch

This switch is used to memorize stations. When the switch is pressed, the FREQUENCY indicator will flash. To memorize the frequency of any station, press the STATION CALL switch while the frequency indicator is flashing.

③ FM MONO switch/indicator

Normally this is set to the off position (the FM MONO indicator goes off). When noise spoils the reception of an FM program, press the switch to the on position (the FM MONO indicator will now light).
The program of an FM stereo broadcast will be heard in mono.
The setting of the FM MONO switch (on or off) is memorized along with the station' s frequency in the STATION CALL switches.
When using the present tuning feature, reception will be in the mode selected when the station was memorized.
This switch will not function for AM (MW or LW) reception.

④ TUNING switch

This is used to locate the stations.
Push either side of this switch; the left side "–" to go to a lower, and the right side "+" to go to a higher frequency.

⑤ BAND selector switch

Each time this switch is pressed, FM, MW, or LW reception is selected alternately.
FM and MHz light: FM reception
AM and kHz light: MW or LW reception

⑥ STATION CALL switches

These are used to recall preset broadcasting stations and to preset the station.

WHEN IN TIMER MODE :

⑦ Time adjusting switch (CLOCK)

Adjusts the present time setting.

⑧ Time setting switch (SET)

Sets the present time and the timer-indicated time for turning on/off the system.

⑨ Display switchover switch (CLOCK/FREQ)

Changes over between the tuner and clock functions.
Tuner function: Displays the frequency (or channel) at which a broadcast is received.
Clock function: Displays the present time.

⑩ Sleep switch (SLEEP)

Each push of this switch causes the time to be set in the following order:

90 → 60 → 30 → 00

These indications cause the system to be automatically turned off after 90, 60 and 30 minutes respectively.

⑪ Timer function setting switches

Sets timer-aided playback and recording, etc.
WAKE UP·····Sets timer playback.
ONCE·····Conducts timer playback only once at the preset time.

⑫ − and + switch

Decreases (−) or increases (+) the indicated value when setting the present time or the timer, and sets the function and volume.

[AMPLIFIER SECTION]

⑬ REMOTE SENSOR

⑭ POWER STANDBY/ON switch

When this switch is pressed, power is supplied to the unit. Press the switch again to turn power standby.

⑮ Headphone jack (PHONES)

For miniature stereo phone plug.

⑯ Graphic equalizer controls (GRAPHIC EQUALIZER)

Sound quality can be adjusted using 5 controls on the right and 5 other controls on the left.

⑰ SURROUND & STEREO WIDE switch/indicator

When surround speaker systems are connected to the SURROUND SPEAKERS jacks at the rear:
By turning this switch ON (causing the SURROUND indicator to come on), you can enjoy surround reproduction.
When surround speaker systems are not connected:
By turning this switch ON, you can enjoy STEREO WIDE reproduction with greater left-hand spread.

NOTE:
In the case of a monaural source, a SURROUND/STEREO WIDE effect cannot be obtained.

⑱ FUNCTION switches/indicators

The indicators light for the specified functions.

[VIDEO]
Press when listening to a stereo component connected to the VIDEO jacks.
[TAPE]
Press when listening to a cassette tape.
[TUNER]
Press when listening to a radio broadcast.
[PHONO]
Press when playing records on a turntable connected to the PHONO jacks.
[CD]
Press when listening to a CD player connected to the CD jacks.

⑲ VOLUME control

UP: Increases volume.
DOWN: Decreases volume.

[DECK SECTION]

⑳ DECK I operation switches

□ / ⏏ (STOP/EJECT)·····Stops tape travel. Ejects cassette if pressed when tape is stopped.
◁•▷ (PLAY)·····Playback
▷▷ (FF)·····Fast forward
◁◁ (REW)·····Rewind

㉑ DECK II operation switches

□ / ⏏ (STOP/EJECT)·····Stops tape travel. Ejects cassette if pressed when tape is stopped.
▷ (PLAY)·····Playback
▷▷ (FF)·····Fast forward
◁◁ (REW)·····Rewind
● (REC)·····Recording.

㉒ PAUSE switch (▯▯)

Temporarily stops tape travel. Cancels pause mode when pressed again.

㉓ DIRECTION switch (Deck I)

Changes tape travel direction.
Can operate during playback or pause.

㉔ Cassette door

㉕ REVERSE MODE switch

Switch position	Deck I (Playback)
⊃	Double-sided playback
⊂⊃	Continuous playback

- Reverse playback automatically stops after 6 forwards and returns. Changing the tape travel direction using the DIRECTION switch also causes reverse playback. (Two such changes constitute one forward and return.) The autoreverse mode automatically causes the system to stop after 6 forwards and returns at tape's end. At this time, the PLAY switch remains on while the system is at a complete stop.

㉖ DOLBY NR switch/indicator

Press to activate the noise reduction system. Use to play back tapes recorded using Dolby B NR noise reduction.

- Tapes recorded using Dolby B NR noise reduction should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby B NR system on.
- It is recommended that tapes recorded using Dolby B NR be so marked on the label. This will help to prevent incorrect setting of the noise reduction switch during playback.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"Dolby" and the double-D symbol ▯▯ are trademarks of Dolby Laboratories Licensing Corporation.

㉗ NORMAL COPY switch

Copies a tape at normal speed.

㉘ HIGH SPEED COPY switch
Copies a tape at double speed.

㉙ CD SYNCHRO REC switch
Records a CD on a tape.

㉚ DECK I DIRECTION indicator
Shows the direction of tape travel in Deck I.

㉛ SYNCHRO COPY indicator
Lights with during normal copying.
Flashes with during high–speed copying.

㉜ Recording indicator (REC)
Lights during recording. Flashes during recording pause.

㉝ PLAY indicator
Lights during tape playback.
Flashes on and off during a playback pause.

REMOTE CONTROL UNIT

Range of remote control
When the remote control unit is pointed at the REMOTE SENSOR window on the deck receiver and any of its keys is pressed, the cassette deck receiver and other components can be operated by remote control.
Distance: Within a range of about 7 meters from the REMOTE SENSOR window
Angle: Within approx. 30 degrees from the center of the REMOTE SENSOR window.
Remote control will not be possible if there is an obstacle between the remote control unit and the REMOTE SENSOR window.

㉞ POWER key

㉟ MUTING key

㊱ VOLUME (UP, DOWN) key

㊲ FUNCTION keys
VIDEO ····· Changes the function to VIDEO/AUX.
TAPE ····· Changes the function to TAPE.
PHONO ····· Changes the function to PHONO.
TUNER ····· Changes the function to TUNER.

㊳ STATION key
- Preset before operation.
  +·····Changes from the present station number to larger station numbers.
  −·····Changes from the present station number to smaller station numbers.

㊴ PAUSE key
Use to pause during tape playback or recording.
Press again to release the pause.

㊵ CD operation keys
▶ (Play)·····Function on the amplifier section is set to CD mode.
Begins CD playback.
▮▮ (Pause)·····Press to temporarily pause playback.
■ (Stop)·····Press to stop playback.
DISC·····Disc numbers can be selected when used together with a Pioneer magazine type CD player.
▶▶| (Track search)·····When pressed once, play advances to the beginning of the next track; when pressed continuously, advances to further tracks.
|◀◀ (Track search)·····When pressed once, play returns to the beginning of the currently playing track; when pressed continuously, returns to earlier tracks.

6. RÉGLAGES

6.1 SECTION PLATINE A CASSETTE

6.1.1 Réglage mécanique

●Les emplacements du réglage sont illustrés à la Fig.6 – 8.

1. Reglage de la vitesse de bande							
N°	Mode	Bande d' étalonnage	Emplacement du réglage		Point de réglage	Procédure de réglage	Remarques
1	LECTURE	Lire la passage préenregistré de 3kHz de la bande d' étalonnage STD-301.	Platine I	— (Vitesse double)	TP1 (canal gauche)	Mettre la platine I en mode de lecture et court-circuiter TP4 avec TP5. Enregistrer la valeur masurée aux points de mesure.	Après le réglage, enlever le court-circuit.
2				VR751 (Vitesse normale)		Appuyer sur le sélecteur PLAY et régler desorte que la fréquence devienne 3015Hz.	
3			Platine II	VR752 (Vitesse double)	TP3 (canal droit)	Mettre la platine II en mode de lecture et court-circuiter TP4 avec TP5. Ajuster de sorte que la fréquence devienne égale à la valeur obtenue à l' étape n° 1.	Après le réglage, enlever le court-circuit.
4				VR753 (Vitesse normale)		Appuyer sur le sélecteur PLAY et régler de sorte que la fréquence devienne 3015Hz.	

6.1.2 RÉGLAGES ÉLECTRIQUES

Conditions de réglage

1. Les réglages mécaniques doivent être avant tout terminés.
2. La tête doit être nettoyée et démagnétisée.
3. Mettre la platine sous tension pour la chauffer pendant quelques minutes, avant de commencer les réglages électriques.
4. Le signal de référence est 0dBv = 1V efficace.
5. Raccorder une résistance de charge de 50k Ω (ou entre 47 à 52k Ω) aux bornes OUTPUT.
6. Les interrupteurs énoncés ci-dessous sont laissés aux positions indiquées, sauf si spécifié autrement.
   DOLBY NR : OFF

Bandes d'étalonnage

STD-331B : Réglages de lecture (voir Fig.6 – 1)
STD-608A : Bande vierge normale (NORMAL)
STD-620 : Bande vierge au chrome (CrO_2)
STD-610 : Bande vierge "métal" (METAL)

Liste des réglages

Sections de lecture

1. Réglage d'azimut de la tête
2. Vérification de la réponse en fréquence de lecture.
3. Réglage du niveau de la lecture.

Sections d'enregistrement

1. Réglage de fréquence d'oscillateur de polarisation.
2. Réglage du niveau d'enregistrement
3. Réglage de la polarisation d'enregistrement
4. Vérification de la reponse en fréquence de l'enregistrement et de la lecture.
5. Vérification de la reponse en fréquence du mode de duplication.

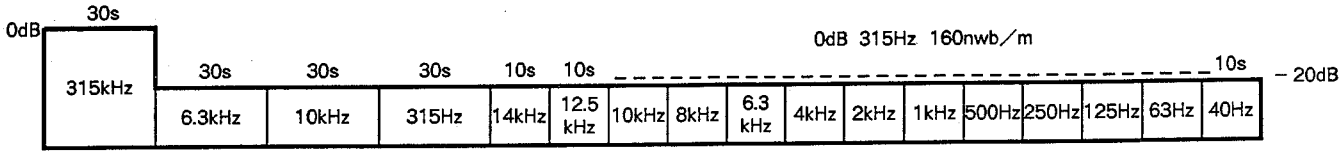


Fig.6 – 1 Fréquences enregistrées sur la bande d' étalonnage STD – 331B

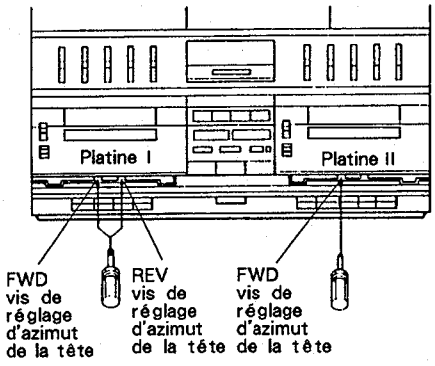

Platine I
Platine II
FWD vis de réglage d'azimut de la tête
REV vis de réglage d'azimut de la tête
FWD vis de réglage d'azimut de la tête

Fig.6 – 2 Réglage d'azimut de la tête

Bande d' étalonnage	STD – 331B (NORMAL)
Interrupteur DOLBY NR	OFF

●A cause de "l'effet d'arête", compensser le canal droit par – 0,5dB à 125Hz et par – 1dB à 63Hz.

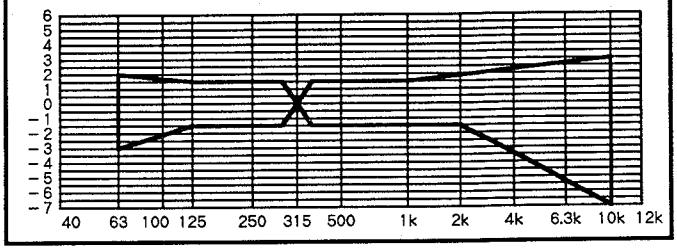


Fig.6 – 3 Zone de la réponse en fréquence de lecture admissible

Section de Lecture

1. Réglage d'azimut de la tête

●Tourner VR551 et VR552 (platine II) sur leur positions mécaniques centrales.

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage	Emplacement de mesure	Valeur de réglage	Remarques
1	LECTURE	Lire le passage préenregistré de 10kHz/ – 20dB de la bande d' étalonnage STD-331B.	Vis de réglage d'azimut de la tête (voir Fig.6 – 2)	TP1 (canal gauche) TP3 (canal droit)	Niveau maximal du signal de lecture	
2	ARRET	Le réglage terminé, verrouiller la vis à l'aide du verrou de vis.				

2. Vérification de la réponse en fréquence de lecture

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage	Emplacement de mesure	Valeur de réglage	Remarques
1	LECTURE	STD – 331B	———	TP1 (canal gauche) TP3 (canal droit)	La zone admissible, illustrée à la Fig.6 – 3, doit être satisfaite.	

3. Réglage du niveau de la lecture

●Ce réglage détermine le niveau DOLBY NR et doit être effectué avec le plus grand soin.

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage		Emplacement de mesure	Valeur de réglage	Remarques
1	LECTURE	Lire le passage préenregistré de 315kHz/ 0dB de la bande d' étalonnage STD-331B.	Platine II	VR551 (canal gauche)	TP1 (canal gauche) TP3 (canal droit)	– 23,0dBv ± 2,5dB	
				VR552 (canal droit)			

Section d'enregistrement

1. Réglage de fréquence d'oscillateur de polarisation

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage		Emplacement du masure	Valeur de réglage	Remarques
1	ENREGISTRE – MENT	Charger la bande d' étalonnage STD – 610 sans signal d'entrée.	Platine II	T551	Fil de cavalier (voir Fig.6 – 8)	105kHz ± 1kHz	

2. Réglage du niveau d'enregistrement

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage		Emplacement du masure	Valeur de réglage	Remarques
1	PAUSE A L'ENREGISTRE – MENT	appliquer un signal de 315kHz / – 20dBv aux bornes d'entrée.	–		–	–	
2		Commuter l'interrupteur DOLBY NR sur marche (ON).					
3	ENREGISTRE – MENT / LECTURE	Enregistrer le signal ci – dessus sur la bande d' étalonnage STD – 608A puis le reproduire.	Platine II	VR553 (canal gauche) VR554 (canal droit)	TP1 (canal gauche) TP3 (canal droit)	Compenser le niveau du signal de lecture de sorte gu'il devienne – 23,0dBv ± 2,5dB en répétant l'enregistrement et la lecture.	

3. Réglage de la polarisation d'enregistrement.

● Le réglage terminé, faire attention à ne pas tomber en dessous de la polarisation, en vérifiant le taux de distorsion.

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage		Emplacement du masure	Valeur de réglage	Remarques
1	ENREGISTRE – MENT	Enregistrer un signal de 315Hz et un signal de 10kHz à partir des bornes CD, puis les reproduire.	Platine II	VR555 (canal gauche) VR556 (canal droit)	TP1 (canal gauche) TP3 (canal droit)	Compenser le niveau du signal de lecture de 10kHz de sorte qu'il devienne – 23,0dBv ± 2,5dB contre le niveau du signal de 315kHz, en répétant l'enregistremet la lecture.	

4. Vérification de la reponse en fréquence de l'enregistrement et de la lecture

N°	Mode	Signal d'entrée et bande d' étalonnage	Emplacement du réglage	Emplacement du masure	Valeur de réglage	Remarques
1	ENREGISTRE – MENT / LECTURE	STD – 608A (NORM) NR : OFF / ON	Vérifier	TP1 (canal gauche) TP3 (canal droit)	La zone admissible, illustrée à la Fig.6 – 4, doit être satisfaite.	
2	ENREGISTRE – MENT / LECTURE	STD – 620 (CrO_2) NR : OFF / ON	Vérifier	TP1 (canal gauche) TP3 (canal droit)	La zone admissible, illustrée à la Fig.6 – 5, doit être satisfaite.	

Band d' étalonnage	STD – 608A (NORMAL)	Band d' étalonnage	STD – 608A (NORMAL)
Interrupteur DOLBY NR	OFF	Interrupteur DOLBY NR	ON

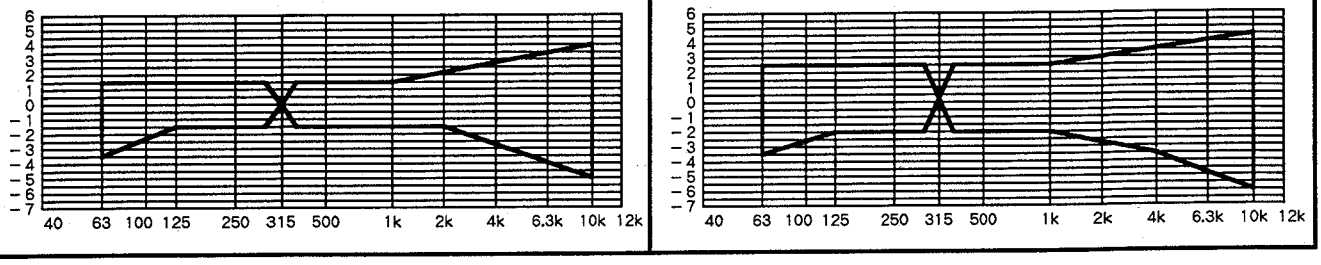


Fig.6 – 4 Zone de la réponse admissible de lecture et d'enregistrement (NORM)

Band d' étalonnage	STD – 620 (CrO_2)	Band d' étalonnage	STD – 620 (CrO_2)
Interrupteur DOLBY NR	OFF	Interrupteur DOLBY NR	ON

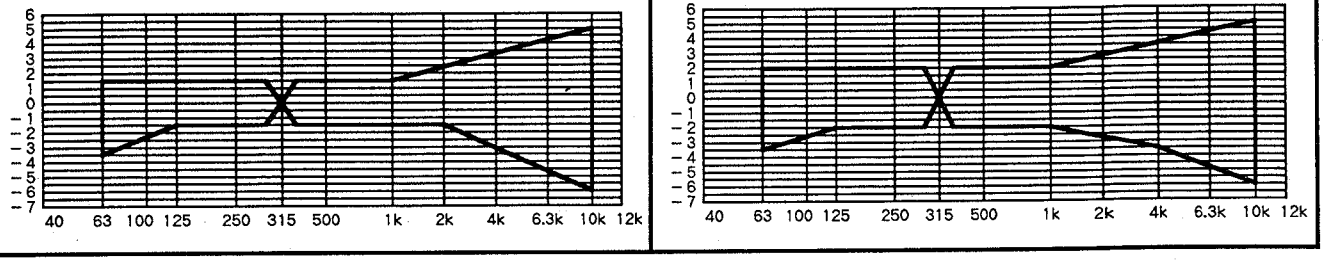


Fig.6 – 5 Zone de la réponse admissible de lecture et d'enregistrement (CrO_2)

6.2 SECTION TUNER

6.2.1 Réglage du tuner AM (MW)

●Procéder aux connexions comme illsutré à la Fig.6 – 6.

● Placer la fonction sur MW.

N°	Réglage	AM SG (400Hz,modulation 30 %)		RX – Z71L Affichage de la fréquence de réception	Emplacement du réglage	Spécifications du réglage
		Fréquence (kHz)	Niveau (dB μ V/m)			
1	Réglage de la tension OSC	–	–	531kHz	L103	Régler TP101 à 1,25V ± 0,1V.
2		–	–	1602kHz	TC101	Régler TP101 à 10V ± 0,5V.
3	Réglage de la sensibilité MW	603	74	603kHz	T101	Ajuster la tension de la borne de sortie (TP111 : canal gauche, TP109 : canal droit) sur le maximum.
4		1395		1395kHz	TC102	
5		603		603kHz	F102	

6.2.2 Réglage du tuner AM (LW)

●Procéder aux connexions comme illustré à la Fig.6 – 6.

● Placer la fonction sur LW.

N°	Réglage	AM SG (400Hz, modulation 30 %)		RX – Z71L Affichage de la fréquence de réception	Emplacement du réglage	Spécifications du réglage
		Fréquence (kHz)	Niveau (dB μ V/m)			
1	Réglage de la tension OSC	–	–	281kHz	L104	Régler TP101 à 4,95V.
2	Réglage de la sensibilité LW	164	74	164kHz	T102	Ajuster la tension de la borne de sortie (TP111 : canal gauche, TP109 : canal droit) sur le maximum.
3		254		254kHz	TC103	

6.2.3 Réglage du tuner FM

●Procedér aux connexions comme illustré à la Fig.6 – 7.

●Placer la fonction sur FM.

N°	Réglage	FM SG (1kHz ± 75kHz dev.)		RX – Z71L Affichage de la fréquence de réception	Emplacement du réglage	Spécifications du réglage
		Fréquence (MHz)	Niveau (dB μ)			
1	Réglage du T-mètre de la bobine de détection	98,0	60	98,0MHz	L109	Régler de sorte que la tension CC, entre les bornes TP104 et TP105, devienne 0V.
2	Réglage de la sensibilité FM	98,0	60	98,0MHz	L106 T103	Régler la tension de la borne de sortie (TP111 : canal gauche,TP109 : canal droit) sur le maximum.
3	Réglage de la distorsion stéréo	98,0	60 (＊1)	98,0MHz	T103 (dans 90°)	Régler la distorsion de la borne de sortie (TP111 : canal gauche, TP109 : canal droit) sur le minimum.
4	Réglage de niveau du témoin TUNE	98,0	20 (± 2)	98,0MHz	VR101	Régler de sorte que le témoin TUNE s'allume.
5	Réglage FM VCO	Pas de modulation	60	98,0MHz	VR102	Régler la fréquence de TP106 sur 76kHz ± 200Hz.

(＊1) Modulation stéréo : Principale 1kHz G + D ± 68,25Hz de déviation
Pilote 19kHz ± 6,75kHz déviation

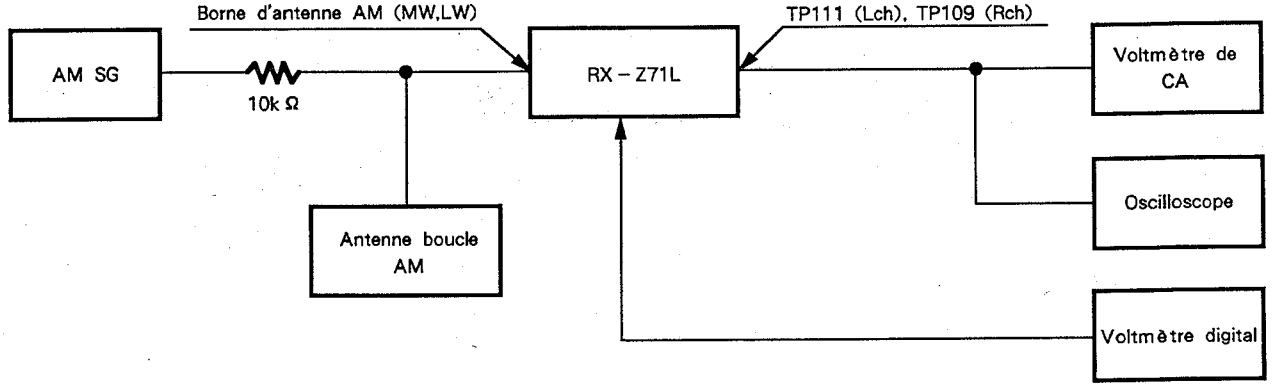


Fig.6 – 6 Diagramme de câblage de réglage AM

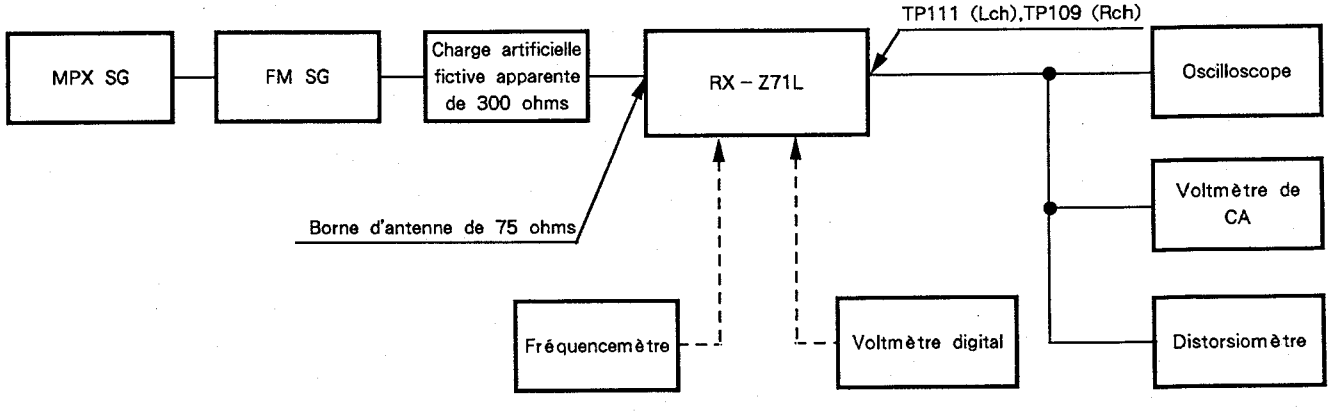


Fig.6 – 7 Diagramme de câblage de réglage FM

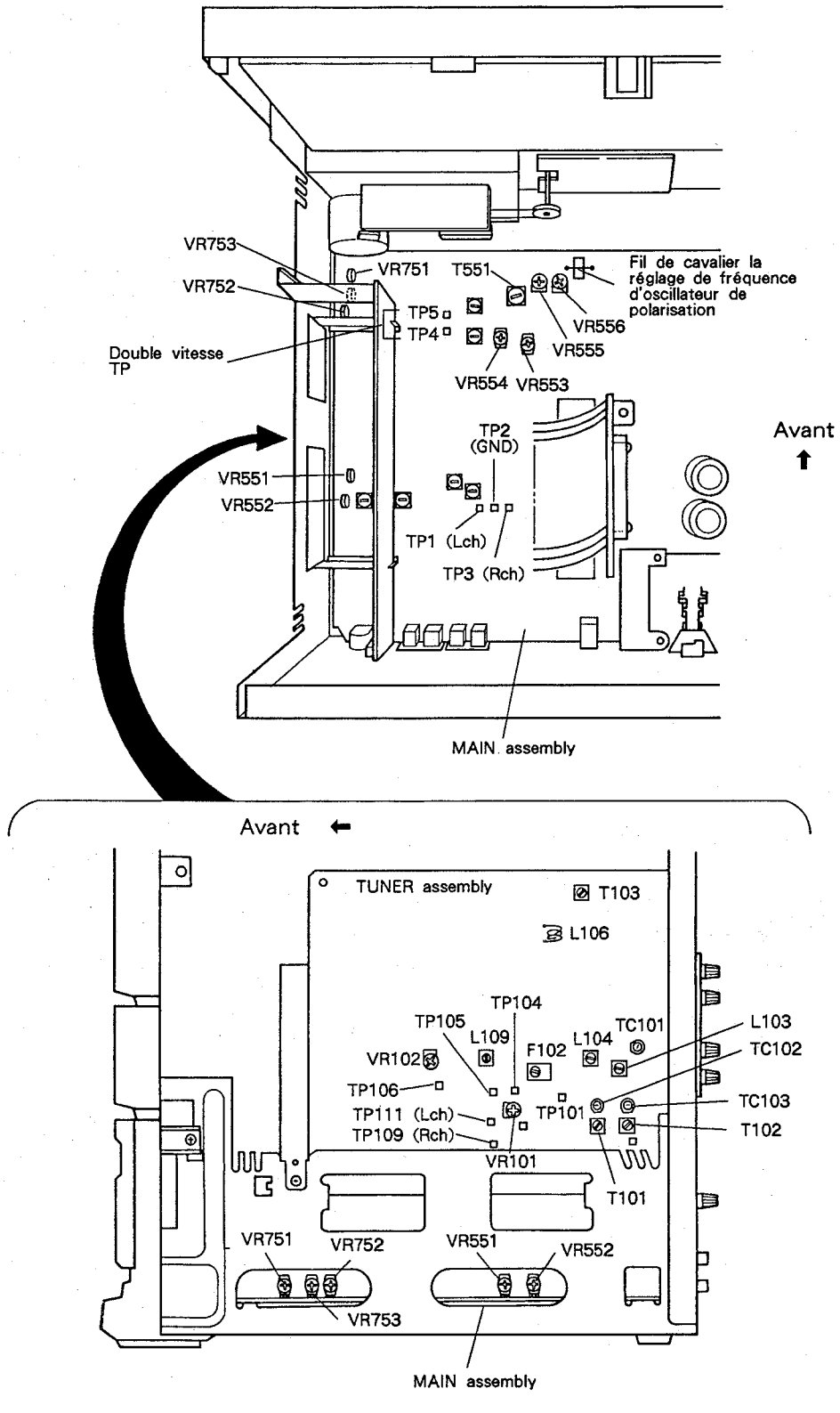


Fig.6 – 8 Point de réglage

6. AJUSTES

6.1 SECCIÓN DEL MAGNETÓFONO

6.1.1 Ajustes mecánicos

●Los puntos de ajuste se muestran en la Fig.6 – 8

1. Ajuste de la velocidad de la cinta							
N.°	Modo	Cinta de prueba	Punto de ajuste		Punto de medición	Procedimiento de ajuste	Observaciones
1	Preproducción "PLAY"	Reproduzca la sección de 3kHz de la cinta de prueba STD-301.	Deck I	— (Velocidad doble)	TP1 (Canal izquierdo) TP3 (Canal derecho)	Ponga el deck I en el modo de reproducción, y cortocircuite TP4 y TP5. Anote el valor medido en los puntos de medición.	Después del ajuste, abra el cortocircuito.
2				VR751 (Velocidad normal)		Presione el selector PLAY y ajuste hasta obtener una frecuencia de 3015Hz.	
3			Deck II	VR752 (Velocidad doble)		Ponga el deck II en el modo de reproducción, y cortocircuite TP4 y TP5. Ajuste hasta que la frecuencia sea igual al valor obtenido en el paso n.° 1.	Después del ajuste, abra el cortocircuito.
4				VR753 (Velocidad normal)		Presione el selector PLAY y ajuste hasta que la frecuencia sea de 3015Hz.	

6.1.2 AJUSTES ELÉCTRICOS

Condiciones para el ajuste

1. Los ajustes mecánicos deben terminarse primero.
2. La cabeza debe limpiar y desimanarse.
3. Antes de iniciar los ajustes eléctricos, deje el deck con la alimentación conectada durante algunos minutos para que se caliente.
4. La señal de referencia es de 0dBv = 1V eficaz.
5. Conecte un resistor de carga de 50k Ω (o de 47 a 52k Ω) entre los terminales OUTPUT.
6. A menos que se especifique de otra manera, los controles siguientes deberán dejarse en las posiciones indicadas.
   DOLBY NR : OFF

Cintas de prueba

STD-331B : Ajustes de reproducción (Véase la Fig.6 – 1)
STD-608A : Cinta en blanco NORMAL
STD-620 : Cinta en blanco CrO_2
STD-610 : Cinta en blanco METAL

Lista de ajustes

Sectión de reproducción

1. Ajuste azimutal de la cabeza.
2. comprobación de la respuesta en frecuencia de reproducción.
3. Ajuste del nivel de reproducción.

Sección de grabación

1. Ajuste de la frecuencia de oscilación de polarización.
2. Ajuste del nivel de grabación.
3. Ajuste de la polarización de grabación.
4. Comprobación de la respuesta en frecuencia de grabación y reproducción.
5. Comprobaciónde la respuesta en frecuencia de reproducción en el modo de copia.

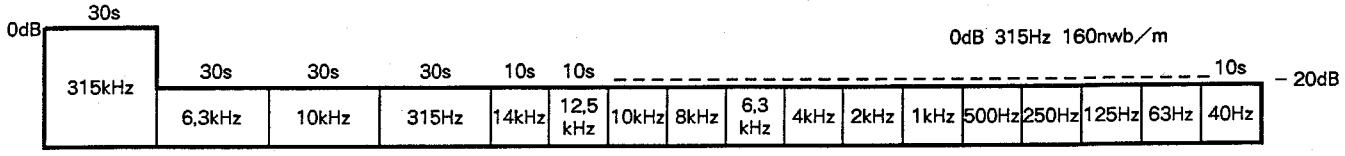


Fig.6 – 1 Contenido de la cinta de prueba STD – 331B

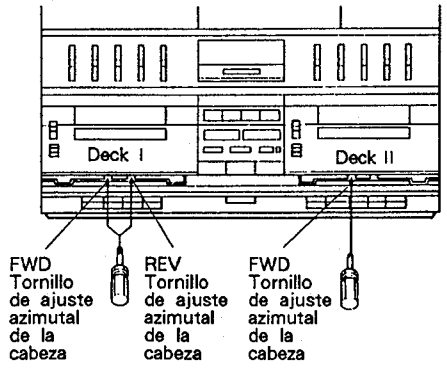


Fig.6 – 2 Ajuste azimutal de la cabeza

Cinta de prueba	STD – 331B (NORMAL)
Interruptor DOLBY NR	OFF

● Debido al "efecto de borde", compense el canal derecho – 0,5dB a 125Hz, y – 1dB a 63Hz.

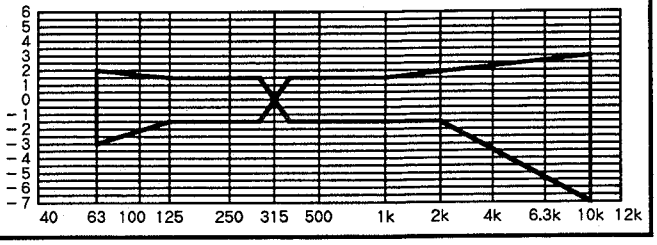


Fig.6 – 3 Zona de respuesta en frecuencia de reproducción permisible

Sección de Reproducción

1. Ajuste azimutal de la cabeza

●Gire VR551 y VR552 (deck II) hasta la posición de su centro mecánico.

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	Reproducción "PLAY"	Reproduzca la sección de 10kHz/ – 20dB de la cinta de prueba STD-331B.	Tornillo de ajuste azimutal de la cabeza (Véase la Fig.6 – 2)	TP1 (Canal izquierdo) TP3 (Canal derecho)	Nivel máximo de la señal de reproducción.	
2	Parada "STOP"	Después del ajuste, trabe el tornillo con compuesto inmovilizador.				

2. Comprobación de la respuesta en frecuencia de reproducción.

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	Reproducción "PLAY"	STD-331B	–	TP1 (Canal izquierdo) TP3 (Canal derecho)	Debe satisfacerse la zona permisible mostrada en la Fig. 6 – 3.	

3.Ajuste del nivel de reproducción

●Este ajuste determina el nivel de DOLBY NR, por lo que debe efectuarse con mucho cuidado.

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	Reproducción "PLAY"	Reproduzca la sección de 315Hz/0dB de la cinta de prueba STD-331B.	Deck II	VR551 (Canal izquierdo)	TP1 (Canal izquierdo)	– 23,0dBv ± 2,5dB	
				VR552 (Canal derecho)	TP3 (Canal derecho)		

Sección de Grabación

1. Ajuste de la frecuencia de oscilación de polarización

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	Grabación "REC"	Coloque la cinta de prueba STD – 610 sin señal de entrada.	Deck II	T551	Hilo cortocircuit – ador (Véase la Fig.6 – 8.)	105kHz ± 1kHz	

2. Ajuste del nivel de grabacion

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	Grabación en pausa "REC PAUSE"	Aplique una señal de 315Hz /– 20dBv a los terminales de entrada CD.	–		–	–	
2		Ponga el interruptor DOLBY NR en la posición ON.					
3	Grabación/ reproducción "REC/PLAY"	Grabe la señal indicada arriba en la cinta de prueba STD – 608A, y reprodúzcala.	Deck II	VR553 (Canal izquierdo) VR554 (Canal derecho)	TP1 (Canal izquierdo) TP3 (Canal derecho)	Compense el nivel de la señal de reproducción hasta que sea de – 23,0dBv ± 2,5dB repitiendo la grabación y la reproducción.	

3. Ajuste de la polarización de grabación

● Después del ajuste, tenga cuidado para que no haya subpolarización comprobando la proporción de distorsión.

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste		Punto de medición	Valor de ajuste	Observaciones
1	Grabación "REC"	Grabe una señal de 315Hz y otra de 10kHz a través de los terminales de entrada CD, y reprod úzcalas.	Deck II	VR555 (Canal izquierdo) VR556 (Canal derecho)	TP1 (Canal izquierdo) TP3 (Canal derecho)	Compense el nivel de la señal de reproducción de 10kHz hasta que sea de – 23,0dBv ± 2,5dB en comparación con el nivel de la señal de 315Hz repitiendo la grabación y la reproducción.	

4. Comprobación de la respuesta en frecuencia de grabación y reproducción

N.°	Modo	Señal de entrada y cinta de prueba	Punto de ajuste	Punto de medición	Valor de ajuste	Observaciones
1	Grabación/ reproducción "REC/PLAY"	STD – 608A (NORM) NR : OFF/ON	Compruebe	TP1 (Canal izquierdo) TP3 (Canal derecho)	Debe satisfacerse la zona permisible mostrada en la Fig.6 – 4.	
2	Grabación/ reproducción "REC/PLAY"	STD – 620 (CrO_2) NR : OFF/ON	Compruebe	TP1 (Canal izquierdo) TP3 (Canal derecho)	Debe satisfacerse la zona permisible mostrada en la Fig.6 – 5.	

Cinta de prueba	STD – 608A (NORMAL)	Cinta de prueba	STD – 608A (NORMAL)
Interruptor DOLBY NR	OFF	Interruptor DOLBY NR	ON

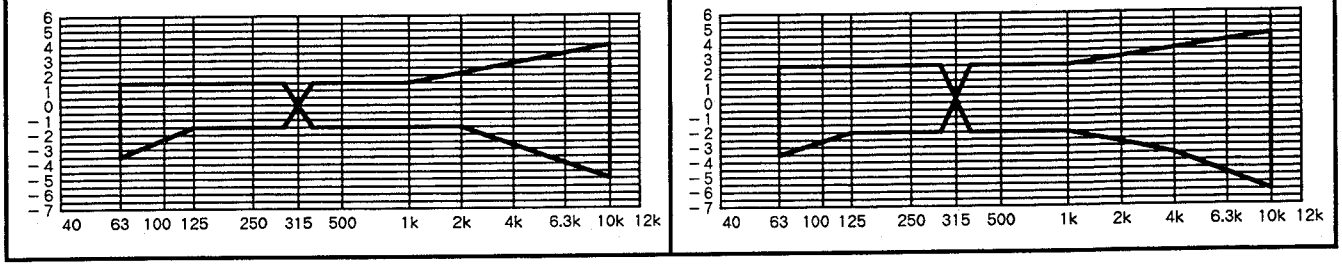


Fig.6 – 4 Zone de respuesta de frecuencia de grabacon y reproducción permisible (NORM)

Cinta de prueba	STD – 620 (CrO_2)	Cinta de prueba	STD – 620 (CrO_2)
Interruptor DOLBY NR	OFF	Interruptor DOLBY NR	ON

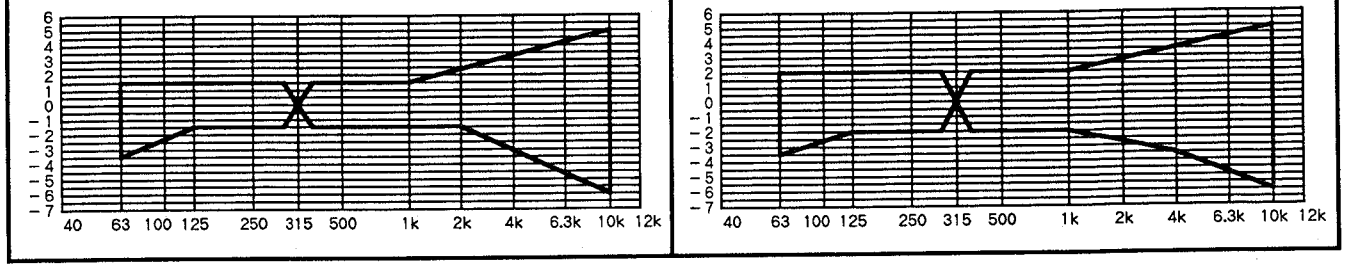


Fig.6 – 5 Zone de respuesta de frecuencia de grabacon y reproducción permisible (CrO_2)

6.2 SECCIÓN DEL SINTONIZADOR

6.2.1 Ajuste del sintonizador de AM (MW)

●Realice las conexiones mostradas en la Fig. 6 – 6.

●Ponga el selector de función en MW.

N.°	Ajuste	Generador de señal de AM (400Hz, modulación al 30 %)		RX – Z71L Indicación de la frecuencia recibida	Punto de ajuste	Procedimiento de ajuste
		Frecuencia (kHz)	Nivel (dB μ V/m)			
1	Ajuste de la tensión del oscilador	–	–	531kHz	L103	Ajuste TP101 a 1,25V ± 0,1V.
2		–	–	1602kHz	TC101	Ajuste TP101 a 10V ± 0,5V.
3	Ajuste de la sensibilidad de MW	603	74	603kHz	T101	Aumente al máximo la tensión entre los terminales de salida (TP111 : canal izquierdo y TP109 : canal derecho) y masa.
4		1395		1395kHz	TC102	
5		603		603kHz	F102	

6.2.2 Ajuste del sintonizador de AM (LW)

●Realice las conexiones mostradas en la Fig. 6 – 6.

●Ponga el selector de función en LW.

N.°	Ajuste	Generador de señal de AM (400Hz, modulacion al 30 %)		RX – Z71L Indicación de la frecuencia recibida	Punto de ajuste	Procedimiento de ajuste
		Frecuencia (kHz)	Nivel (dB μ V/m)			
1	Ajuste de la tensión del oscilador	–	–	281kHz	L104	Ajuste TP101 a 4,95V.
2	Ajuste de la sensibilidad de LW	164	74	164kHz	T102	Aumente al máximo la tensión entre los terminales de salida (TP111 : canal izquierdo y TP109 : canal derecho) y masa.
3		254		254kHz	TC103	

6.2.3 Ajuste del sintonizador de FM

●Realice las conexiones mostradas en la Fig. 6 – 7.

●Ponga el selector de función en FM.

N°	Ajuste	Generador de señal de FM (1kHz ± 75kHz de desviación)		RX – Z71L Indicacón de la frecuencia recibida	Punto de ajuste	Procedimiento de ajuste
		Frecuencia (MHz)	Nivel (dB μ)			
1	Ajuste de T METER de la bobina de detección	98,0	60	98,0MHz	L109	Ajuste hasta que la tensión de CC entre los terminales TP104 y TP105 sea de 0V.
2	Ajuste de la sensibilidad de FM	98,0	60	98,0MHz	L106 T103	Aumente al máximo la tensión entre los terminales de salida (TP111 : canal izquierdo y TP109 : canal derecho) y masa.
3	Ajuste de la distorsión en estéreo	98,0	60 (＊1)	98,0MHz	T103 (dentro de 90°)	Disminuya al mínimo la tensión entre los terminales de salida (TP111 : canal izquierdo y TP109 : canal derecho) y masa.
4	Ajuste del nivel del indicador TUNED.	98,0	20 (± 2)	98,0MHz	VR101	Ajuste hasta que se encienda el indicador TUNED.
5	Ajuste del VCO de FM	Sin modulacion	60	98,0MHz	VR102	Ajuste hasta que la frecuencia de TP106 sea de 76kHz ± 200Hz.

(＊1) Modulación en estéreo :Principal : 1kHz, canales izquierdo + derecho ± 68,25Hz de desviación
Piloto : 19kHz ± 6,75kHz de desviación

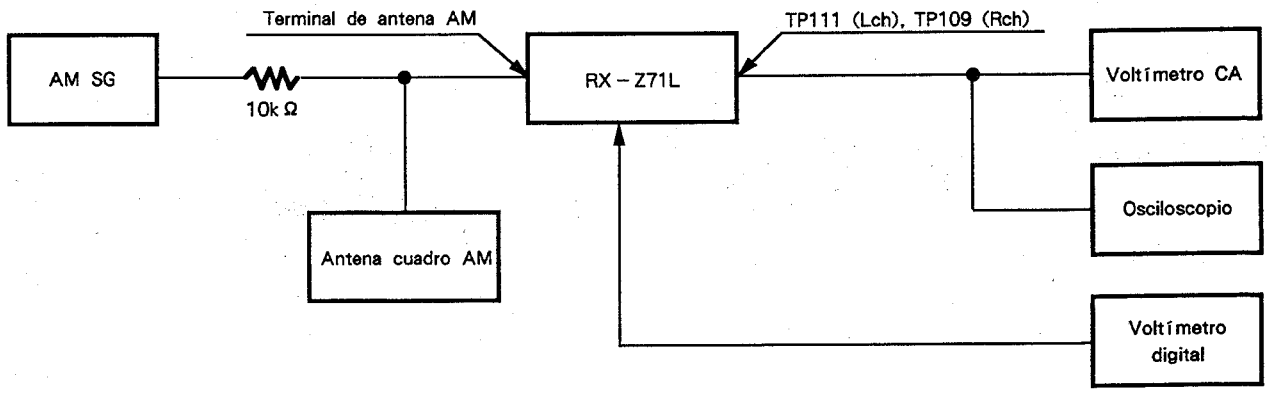


Fig.6 – 6 Esquema de alambrado de ajuste AM (MW,LW)

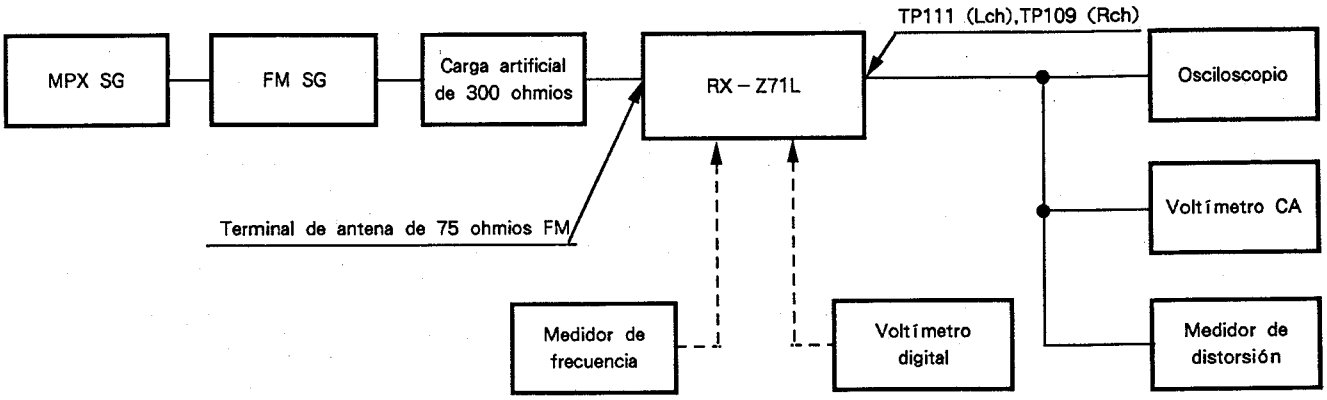


Fig.6 – 7 Esquema de alambrado de ajuste FM

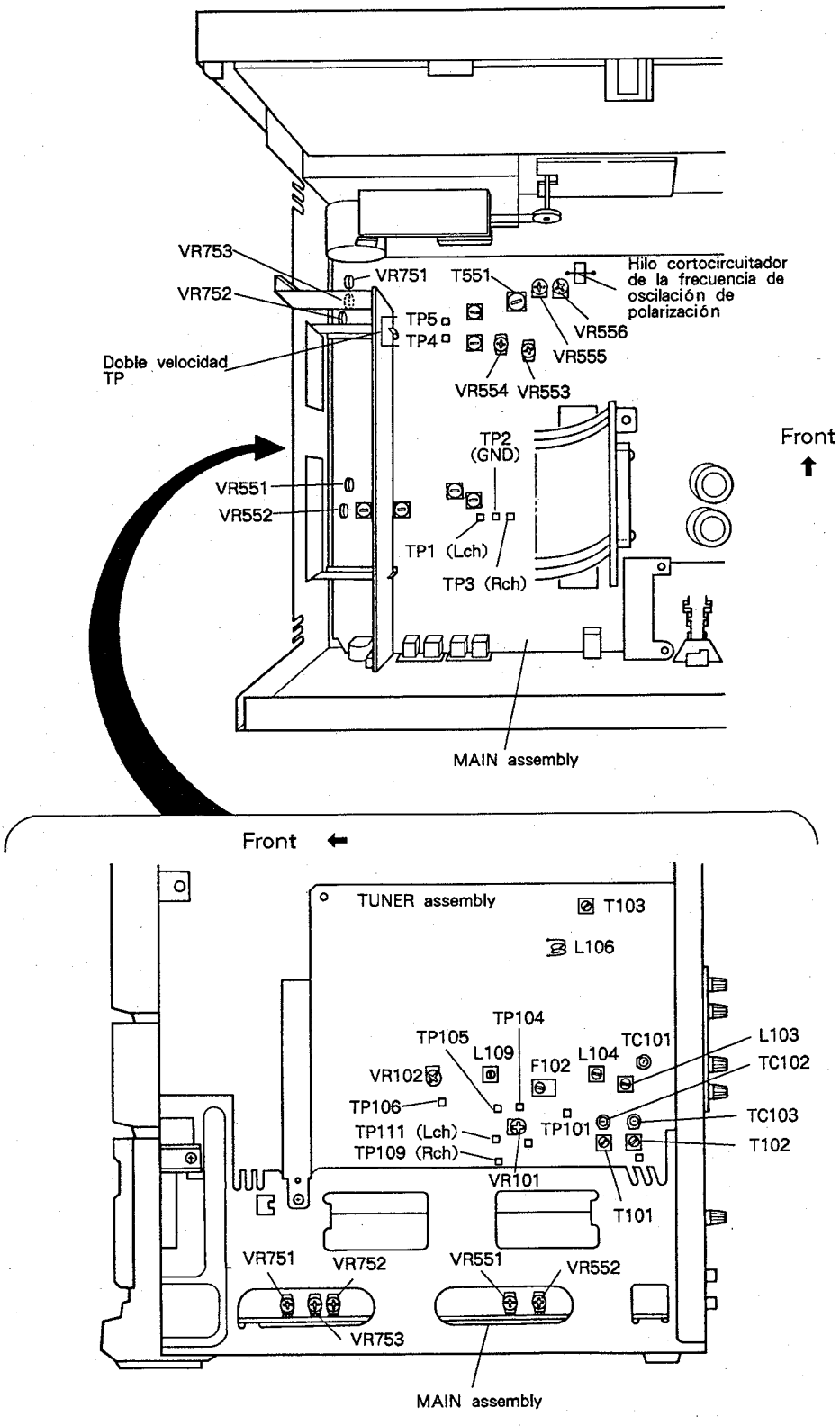


Fig.6 – 8 Punto de ajuste